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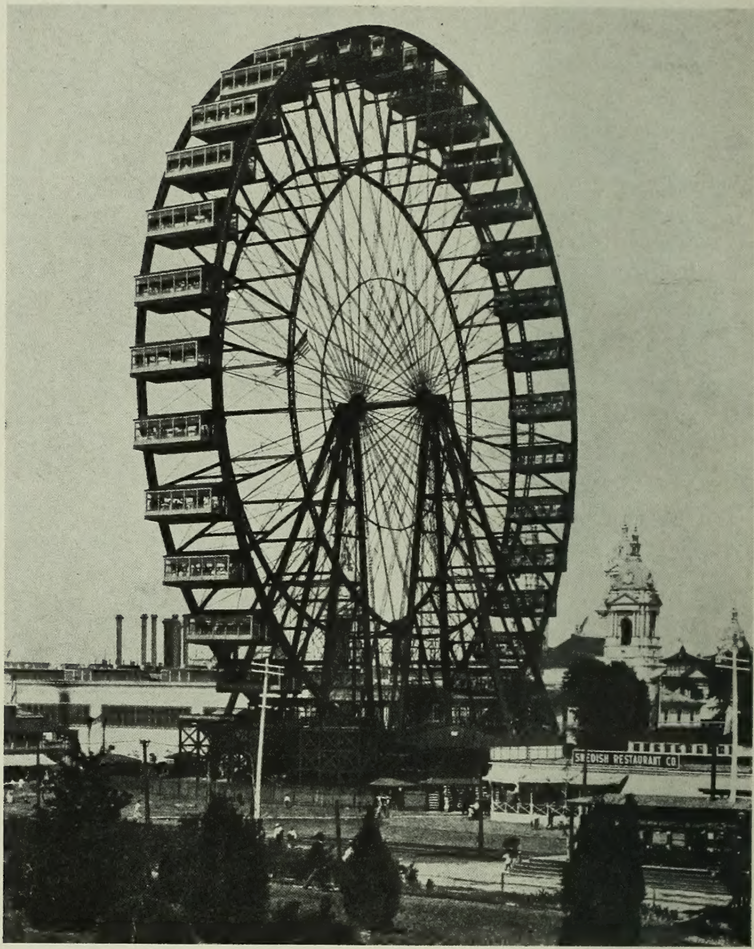
The Outdoor Amusement Industry



Ferris Wheel—Chicago World's Fair, 1893

The OUTDOOR AMUSEMENT INDUSTRY

From Earliest Times to the Present

by **WILLIAM F. MANGELS**

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Foreword

When one visits an amusement park, whether in America or in another country, captured by the novelty of today's attractions, by the color, light and glitter, the speed of fantastic new devices, he may occasionally say to himself that life today offers more advantages for amusement than it offered his forefathers in days gone by.

But if he stops for a moment, he realizes that down through the centuries man has been ever fun-loving, and that his natural instincts encouraged him to gather with his fellow men in some sort of social activity. In response to this natural craving for fun, he found occasion to take time from his daily toil to play, and as years passed by to invent new forms of amusement, new games, new fun-provoking devices.

Later came the development of the amusement centers, now familiar in every country, leading in turn to the invention, in rapid succession, of devices designed to provide new and pleasurable excitement. Today these centers fill no minor role in providing pleasure for the everyday American and his family.

In compiling this book, I hope it will give to those interested in the laughter and the gleeful shrill of free children's voices, a small part of the pleasure it has given me in assembling the information it contains.

The Author

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Preface

The purpose of *The Outdoor Amusement Industry* is to give the reading public, researchers, the amusement industry and all its associated units complete and authoritative data on amusement centers, and the various devices and attractions offered their patrons. This volume contains probably the most complete and, perhaps, the only collection of source material relating to these subjects. Most of the material is exclusive.

The author spent many years compiling this historic record from many places, in the United States, Canada and Europe, from personal visits to legendary parks and amusement centers, from special correspondence, early books, models, original devices, patent studies, and reports of operations unearthed only after patient and exhaustive research.

The National Association of Amusement Parks, Pools and Beaches, which sponsors this volume, believes it should be in the library not only of everyone interested in amusements and their historical development, but in all libraries of a public and educational nature.

NATIONAL ASSOCIATION OF AMUSEMENT
PARKS, POOLS AND BEACHES
EDWARD J. CARROLL, *President*
PAUL H. HUEDEPOHL, *Secretary*

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The National Association of Amusement Parks, Pools and Beaches is deeply grateful to the Museum Committee, headed by the late Norman S. Alexander of Woodside Park, Philadelphia, Pennsylvania, who worked so hard in the initial preparation of making this publication possible, and Colonel Allan E. MacNicol, of Playland, Rye, New York, who, following Mr. Alexander's demise, took over the assignment of editing the material and consummating the agreement with the author, which culminated in the final publishing of the book.

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The Outdoor Amusement Industry

CHAPTER 1

Outdoor Amusement Resorts

Public amusement is as old as recorded history. The public has always craved spectacles. The Greeks had their Olympic games; the Romans, their chariot races. Even in the Dark Ages and in medieval times, the common man of Europe, although bent to the plow nearly every day, from dawn to dusk, sought amusement on occasion, very often of a brutal or vulgar sort.

As the Renaissance spread northward from Italy over Europe, the new learning brought new standards of living, working conditions changed, and more people had more time for recreation. With the rapid growth of cities, concentrated populations made organized amusements with paid admissions profitable, which showmen of the time were quick to see.

While rural sections were still visited by strolling players, the ancestor organizations of today's carnivals and huge traveling circuses, fixed amusement centers near city limits were also built, to attract urban pleasure-lovers.

Even before the modern theater had its obscure beginnings in the last quarter of the sixteenth century, bearbaiting, bullbaiting, and cockfighting on the Surrey side of the Thames were drawing Londoners thither, to the dismay of the city fathers and ministers; and apprentices were shirking their obligations to visit the captive lions and other wild beasts on display in the Tower of London.

The modern American amusement park is of comparatively recent development, but for more than three hundred years elaborate outdoor amusement centers have existed in several European countries. Known usually as "pleasure gardens," they were remarkably similar to those of today in their general layout and variety of entertainment. Some of the larger parks provided events and devices which thrilled their visitors as keenly as present-day attractions. Queens of the slack wire and daredevils of the flying rings brought gasps of fascinated terror, much as they do beneath the Big Top today, and while mechanical inventive genius was yet to develop the airplane and automotive mechanisms, free balloon ascensions and parachute jumps held crowds spellbound as far back as the seventeen-nineties.

Wherever there has been a demand for entertainment, there has been someone to supply it, and a variety of diversions has sprung from the minds of showmen to meet the choice and fancy of all classes in all times. Robert Burton, in his *Anatomy of Melancholy,* published in 1621, gives a general view of the outdoor sports and pastimes enjoyed by the English people in the early seventeenth century. Besides ringing, bowling and shooting, he mentions "keelpins, tronks, quoits, pitching bars, hurling, wrestling, leaping, running, fencing, mustring, swimming, wasters, foils, foot-ball, balown, quintan, etc." * Tennis and shuffleboard were also popular.

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* Keelpins, or kayle pins, was eventually transformed in name into kittle pins, and finally became the modern game of skittles, or ninepins. Tronks was a game played mostly by ladies and involved rolling small, hard balls along a level board, at the farther end of which were eleven holes into which the player sought to direct them. Coits were quoits, the game known in rural America as pitching horseshoes. Foot-ball was quite unlike the modern game;

Most of these amusements were the common recreation of country folk, along with May games, fairs, wakes, puppet shows, hobbyhorse games, and musical contests with tabers and bagpipes.

Throughout the eighteenth century, a number of large pleasure gardens existed in London and its suburbs. Many were developed by the proprietors of small inns and taverns and achieved fame because of the novelty of their entertainments. * In the early days, no admission was charged, it being expected that visitors would naturally spend a trifle for refreshments. Indeed, amusement and liquid refreshments seem always to have been indissolubly linked; beer gardens in Europe invariably offering entertainment, musical or otherwise, and brewers in the United States, in later years financing amusement parks where their product was sold. Generally, however, musical entertainment came later in the development of the European pleasure garden. A harp and a fiddle sufficed at first. Later, dancing became a feature. Still later, instrumental and vocal concerts were introduced and German, French and Italian artists of fame and ability appeared. A century later, in the United States, it was the great showman P. T. Barnum who brought Jenny Lind to the public's attention in an epoch-making debut, and a nation-wide tour that was front-page news.

As the early pleasure gardens sought to provide a greater variety of entertainment, booths and raffling shops were set

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it was nearer to the rough game played in the United States fifty years or more ago, and was played with an uncovered, inflated bladder, about six inches in diameter. Balown, or balloon, involved from twenty to forty players. The ball, which was an inflated bladder doubly encased in heavy leather, could not be thrown with the hands but had to be advanced in play by arm or shoulder, somewhat as in modern soccer. Quintan, or running at the quintain, was evolved from a knightly sport of the Middle Ages. It involved tilting at a moving shield or target with a lance by a mounted player, without slackening speed in his approach. Its modern counterpart is catching brass rings on the merry-go-round.

* Warwick Wroth, F.S.A., *Pleasure Gardens of the Eighteenth Century,* London, Macmillan & Co., Ltd., 1896.

up to meet the apparently innate human craving for gambling, and that portion of the public which is always in search of something for nothing was accommodated with card and dice games, wheels of fortune, and other devices to capture the pleasure-seekers' pennies.

To people of the eighteenth century, used to dim candlelight within their homes and dark streets without, elaborate illumination was a novelty, and some of the larger pleasure gardens boasted as many as twenty thousand lamps, fueled by oil, to brighten their attractions. One park proudly announced that it virtually turned night into day with sixty thousand oil lamps lighting its booths, structures, and scattered among the surrounding trees and bushes. About the middle of the seventeen-hundreds, fireworks were introduced and soon became a leading feature. The displays were elaborate and were usually set off at the end of the evening, after the balloon ascensions, the rope dancing, the acrobatic performances, and the band concerts were over, a routine that still clings to amusement-park entertainment.

The first English resort to become internationally famous was Vauxhall Gardens, in 1661. It was established in London, in Kensington Lane near Vauxhall Bridge, and covered twelve acres. Admission was free and visitors could wander among its attractions, paying for what pleased them. It attracted many persons of note who wrote pleasant recollections of their visits, among them Samuel Pepys, who became a regular visitor and described the Gardens in his famous diary, in 1662. In 1728, an admission charge of one shilling was established and a silver season ticket, designed by William Hogarth, the famous English caricaturist, was issued.

As it attracted more and more people to its amusements, a great organ was installed to replace the little band that consisted of a harp, some fiddles, and a Jew's trump. Later, acrobatic acts, spectacular fireworks, rope dancers and similar entertainments were offered.

Throughout the eighteenth century and into the nineteenth, Vauxhall Gardens continued to be a Mecca for pleasure-seekers. On August 2, 1833, more than 27,000 paid admission. At this time, and for a number of years before, balloon ascensions and parachute drops were the chief features. In 1838, Charles Green and Monk Mason ascended from the Gardens in a free balloon and, after a voyage of eighteen hours, landed in Weilburg, Germany. On July 24, 1837, the year before, Green, accompanied by two other daring aeronauts, Spencer and Cooking, ascended in a balloon with a parachute attached. When sufficient altitude was attained, the parachute was released and, in descending, in sight of the awe-stricken crowd, Cooking was killed.

After nearly two centuries of colorful existence, the popularity of Vauxhall began to decline. On July 25, 1850, at the end of the evening, the set piece that concluded the fireworks display spelled out the words: FAREWELL FOREVER. It marked the closing of Vauxhall Gardens.

Another large London pleasure resort was Ranelagh Gardens. It originated in 1690, adjacent to the handsome residence of Viscount Ranelagh. In 1733, the property opened as a place of public amusement. An amphitheater and a great rotunda were erected. Both rapidly became famous and a popular resort for all London. The city's fashionables chose it as the proper place to hold grand balls, dinners, parties and concerts. The road to the park became so crowded with coaches on special occasions that traffic was often held up for thirty minutes before it could be unsnarled.

Garden concerts, fireworks and transparent pictures became features and rivaled the attractions at Vauxhall Gardens. At one time, a masquerade was staged which attracted thousands. According to one writer of the time, "good nature and pleasant hilarity prevailed without a riot, in spite of a crowd of imaginary Dutch Skippers, lunatics, coachmen, quack doctors, and the watercress girls."

On June 29, 1764, Mozart, then eight years old, performed several of his own works on the harpsichord and organ, and thousands of music lovers and curiosity-seekers thronged to hear the child prodigy.

In later years, in the struggle to carry on in the face of diminishing revenue, the directors offered prizes for volunteer shooting and special lotteries for ladies, but these attractions were not enough. In July, 1803, Ranelagh Gardens finally closed as a place of amusement.

Another early London amusement park dating from the seventeenth century was Marylebone Gardens, which originated from the old Marylebone manor house, in 1650. Its first attraction was a number of bowling greens. By 1718, it was going in for grand illuminations. During the season of 1736, a scaffolding one hundred and thirty-five feet high was erected in the Gardens for "the Flying Man who is to fly down it by a rope with a wheelbarrow before him." Just how this neatest trick of the season was accomplished is left unexplained.

Toward the middle of the eighteenth century, the Garden's bakery ovens became famous for the rich, seeded plumcakes and almond cheesecakes baked by the young daughter of the proprietor. About this time, too, evening concerts and fireworks were specially featured. In 1774, the set pieces of Torre, a famous deviser of pyrotechnical displays, made the Gardens very popular, and after the concerts, at which vocal talent and instrumentalists from all over Europe appeared, the crowd lingered on to wonder at them.

Torre's masterpiece, often repeated, was "The Forge of Vulcan." Following a preliminary display of more ordinary fireworks, a curtain rose and disclosed Vulcan and Cyclops, outlined in fire, at their forge at the foot of Mount Etna. They were interrupted in their work by the entrance of Venus, accompanied by her son Cupid. Venus implored them to make arrows, but during the ensuing argument Mount Etna began to erupt. Fire and smoke belched from its crater, while lava rolled down its sides in streams, engulfing the characters and bringing the production to an end.

Although the amusement park was brilliantly lighted, the lanes and highways that led to it were shrouded in shadow, like all streets at night in the eighteenth century. Footpads lurked in dim alleyways, ready to pounce on unprotected travelers, and those who had business after dark walked in groups, in the middle of the road. The neighborhood of the Gardens was by no means safe. A platoon of peace officers was employed to conduct visitors to and from the amusement park, and at eleven or twelve o'clock, when the last visitors left, a special guard of soldiers went with them to take them safely through the fields. It is related that Dick Turpin, the famous English highwayman, once accosted and publicly kissed a beauty in the Gardens. When the lady expostulated, the arrogant Turpin replied, "Madam, you can now boast that you have been kissed by Dick Turpin."

By 1776, however, the fortunes of Marylebone Gardens were declining. The public lost interest in its attractions, perhaps enticed by the offerings of a competitor, and before the year was out it closed as an open-air resort.

Differing from the other amusement parks of eighteenth-century London was a popular resort known as Jenny's Whim. It was located in St. George's Row and some of its attractions were similar to those now found in American amusement parks. It was established in 1750 by a theatrical machinist who installed novel devices which soon made it famous. It became fashionable to visit it in the daytime, when only Londoners of the idle class were free to attend. Admission was sixpence.

The park was laid out with the usual bowers and flowerbeds, landscaped in the prevailing mode, but it also offered a bowling green, a grotto, a cockpit, and a duck pond. The pond was stocked with fish and, upon payment of a small fee, a visitor could enjoy the sport of angling. Mechanical amusement devices, similar to those which Hampstead boasted of in the nineteenth century, were a novel attraction, and included swings, hobbyhorses, and a number of trick devices. There was a Harlequin, a Mother Shipton, and a terrific automatic monster that came to mechanical life when a secret spring or trigger was trodden upon. At intervals, huge lifelike fish and mermaids of painted wood, operated by mechanisms, rose above the surface of the pond. A never-failing attraction was a set of distorted mirrors set up in a long room. Since in those days the principle by which convex and concave mirrors distorted reflected objects was not generally understood, visitors were more than amused; they were often frightened.

Despite the novelty of the attractions at Jenny's Whim, it, too, lost its popularity toward the close of the eighteenth century. Finally the grounds were closed and the only part of the resort to survive was a public house.

A number of smaller pleasure gardens, all of the same character but with entertainment offerings of lesser interest, dotted the London scene during the eighteenth and early nineteenth centuries. None lasted many years without changing ownership, and some, when they could no longer draw enough people to be profitable, ended up as taverns, a few of which have survived down to the present time.

Across the English Channel, in France, enterprising showmen also promoted amusement parks of unprecedented magnitude during the eighteenth and nineteenth centuries. They, too, showed great ingenuity in inventing thrilling new amusement devices to entertain the crowds of visitors, including royalty, they lured to their parks. Some of the devices in vogue at the time were rediscovered at a later date in the United States, and became widely popular when advertised as novelties.

Unlike the English gardens, the French amusement parks were not developed from old inns and taverns; they represented bold undertakings of enterprising Gallic showmen. The pioneers of Parisian amusement-park promotion were the members of the Ruggieri family. Claude, one of the brothers, published some interesting details about the parks in the late eighteenth century. The family's first enterprise was the Ruggieri Gardens, established in 1766, in the Rue Saint Lazare. Surrounding the main building was a finely landscaped garden in which spectacles and games were held under the general name of *fêtes champêtres*. As was customary in London, a grand display of fireworks closed the evening's entertainments. Large galleries were built for spectators who wished to be seated during the performances, and even special shelters, in case of rain, were provided.

In 1784, the Ruggieris featured a balloon ascension, an attraction that commanded enormous interest at the time, and in the following year life-size figures were inflated with hydrogen gas and floated in the air to amuse the spectators. Although still popular, the Gardens suffered a loss of revenue at the onset of the French Revolution, and finally succumbed on July 12, 1789, two days before the fall of the Bastille. The park remained closed for a quarter of a century, and when the Ruggieri family reopened it, in 1815, many advances had been made in entertainment devices during the preceding years. One innovation which they installed was a thriller called "Saut du Niagara." It was a sliding boat, loaded with passengers and released down a steep incline into a pool of water. A half century later, the device began to appear in amusement parks in the United States, and is still popular today as the Shoot-the-Chutes.

The Ruggieri Gardens finally closed in 1818, to give way to building construction, but long before that time the Ruggieris had inspired a crop of imitators. The majority followed closely the methods employed and the devices introduced by the Ruggieris, and few lacked patronage among the pleasure-loving Parisians.

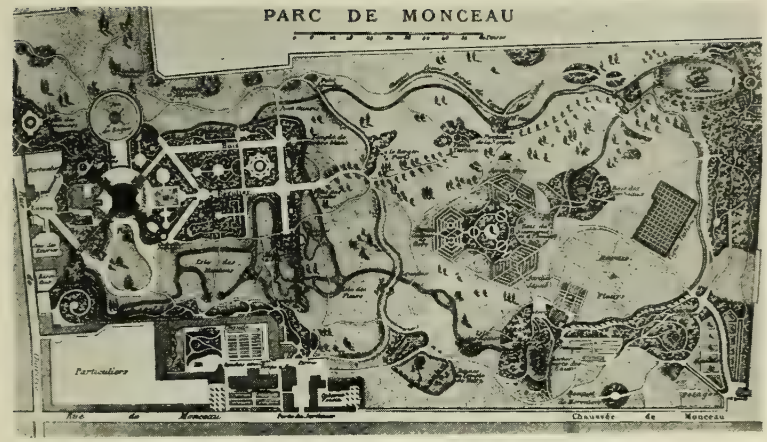
An early competitor, in 1767, was M. Torre, who established the Vauxhall Gardens in the Rue de Bondy, capitalizing on the name of the London venture. As in all amusement parks, fireworks was one of the features, and among a host of miscellaneous entertainments were climbing a greased pole, dancing and masked balls, military band music, pantomimes, tournaments, jousts, and the usual eating and drinking pavilions. Lotteries were a standard attraction, with the lucky ticket-holders winning expensive prizes, among which is recorded a horse and carriage. The Paris Vauxhall Gardens closed in 1778.

The Jardin Élysée, one of the most brilliant amusement spots in all Paris, was opened during the height of the Directoire, in 1797, when the entire city seemed to have given itself up to gaiety, in its reaction from the Revolution. For a few years, it was a special magnet for the fashionable world of Paris, but in 1805 Murat, who had become the marshal of France the year before, took it over as a residence, and its name was changed to Hameau de Chantilly. Still later, it became the residence of the President of France. During its heyday, admission was equivalent to twenty-five cents in United States coinage, "without drink," although dancing and games were free.

One of the most successful of the Parisian amusement resorts was the Tivoli, which, opened in 1798 by two sons of the original Ruggieri family, lasted thirty years, closing in 1828. It was enormously popular among the Parisian working class, and along with the entertainment featured at similar resorts, it added a roller coaster, an attraction which has held its own in popularity at all amusement centers to this day. A program of 1805, which survives, informs that admission was two francs (about forty-eight cents), which entitled the purchaser to about one-third of that amount in beverages, free.

Another amusement center, the Parc Monceaux, which opened in 1737, was patterned after the Tivoli but never rivaled it in popularity and closed after five or six years of operation. It is remembered historically, however, as the site at which Garnerin, the first man to make a parachute jump from a free balloon, ascended on October 22, 1797. All Paris flocked toward the spot on the day of the event, high officials, foreign royalty and workers rubbing elbows together. The park was jammed to capacity and the box-office receipts broke all records. At least 36,000 francs was paid in, but in the excitement and confusion that ensued as the crowd raced across the fields to be near the spot where Garnerin was landing, the receipts were lost or stolen. Up to that time, paid admissions seldom exceeded 25,000 francs on a single day.

Another member of the Ruggieri family opened the Jardin Beaujon, in 1801, and operated it successfully for more than



Plan of the Parc Monceau Showing Location of the Attractions

twenty years. A roller coaster and chariot races were featured, along with the usual fireworks displays and varied entertainments, but the great attraction was a pyrotechnical pantomime, "Telemachus in Calypso." The garden remained popular until 1824, when it was closed to make way for the erection of new buildings on the site.

Still another enterprise of the Ruggieri family was the Jardin Marbeuf, which was opened toward the end of the eighteenth century, at the end of the Champs Élysées near the Chaillot Gate. One of the pyrotechnical displays which attracted huge crowds nightly, in 1798, was "Phaeton's Fall." The presentation was so elaborate and costly that it was a financial failure, despite the many who flocked to see it. From this park, Garnerin took off for his third parachute jump, but the novelty had slightly worn off for the changeable Parisian public, and only 21,000 francs dribbled into the coffers. More exciting was the attempt by M. Calais, a pioneer flying enthusiast, to soar through the air on taffeta wings. With his flimsy device attached to his arms and shoulders, he was hoisted to the top of a specially erected mast. He released himself from the tackle that had raised him aloft, saluted the throng below, and leaped from the miniature platform. The taffeta wings failed to bear him, and he dropped to the ground. They offered some resistance in his fall, however, and the only injury he sustained was a broken nose.

Many less successful pleasure parks opened and closed in Paris during the eighteenth and early nineteenth centuries, but only the largest have left any records. Gradually, the interest in this type of amusement waned, and attendance, even at the larger resorts, declined.

Elsewhere in Europe, sporadic attempts were made at creating public interest in the type of amusement park which had proved so attractive to Londoners and Parisians, but the efforts met with indifferent success. Only in Vienna did the idea take a firm hold on the people and exercise a fascination that has continued to this day.

In the course of the last century, the Prater, in Vienna, became the best-known amusement center in all Europe. It outlived several empires and two world wars. A vast expanse of two thousand acres of wood and park, it spread along the east side of the city. The great Vienna world's fair was held there in 1873, and many of the buildings, including the great Rotunda, were left standing. All classes of Vienna society frequented the Prater, and the diversity of its entertainment was a wonder to foreign visitors. High society promenaded the Haupt Allee in May, and the working class thronged to the Wurstel Prater on Sundays, in boisterous jollity. Taverns and restaurants stayed open late, and rope dancers, jugglers, mountebanks and musicians entertained by the score. Swings and carrousels abounded, and the attraction of the puppet shows and Punch and Judy seemed never-failing. Every new device quickly found its way to the Prater. One, the giant pleasure wheel called the "Riesenrad," which was installed in 1904, became world famous and was widely imitated.

CHAPTER 2

Early American Amusement Parks

American amusement parks were not a development from centuries-old taverns and inns, as was partly the case in England, but from the primitive picnic grove, still familiar to pleasure-seekers two generations ago. In those rustic resorts, amusements were of a simple character, boisterous at times but keenly enjoyed. There social societies and fraternal organizations held their annual outings, and the merrymakers engaged in athletic games, song festivals, target shooting, bowling, dancing, and the consumption of beer and other refreshments. The mechanical pleasure devices for the young folks consisted of little more than simple swings and crude merry-go-rounds.

During the latter part of the nineteenth century a great change in the type of amusement took place; and today, as a result, we have hundreds of well-organized and well-managed modern amusement parks, together with many shore resorts and itinerant organizations known as carnival companies.

The amusement-park industry is steadily growing in magnitude, as indicated in the United States Department of Commerce report for 1948, which discloses an all-time high record of receipts from amusement parks and mechanical devices of $34,000,000.

The origin and development of some early American amusement parks hereinafter described are but a few of many. As it is obviously impossible to describe all of them, only those whose records are easily accessible or whose importance is outstanding have been included.

One of the earliest amusement parks of any size in this country during the first half of the nineteenth century, was Jones's Wood, in New York City. Jones's Wood was located between Seventieth and Seventy-fifth streets, along the East River, and covered about one hundred and fifty-three acres of woodland, owned by the Prevost family. In 1749, a family burying vault had been built on the Prevost estate and it stood, until 1857, in Jones's Wood.

For over a half century, Jones's Wood prospered as a pleasure resort and offered many diverting and novel attractions to New Yorkers on a holiday. Its walks were flanked with booths and stalls. Huge tents housed pictorial shows in which wooden figures moved creakily through mechanical plays. Gymnastic apparatus was available for young men and women to show their prowess. They were invited to swing and hop, to tumble and see-saw, to wriggle on parallel bars, to ride the edge of big wheels in circular motion, to turn somersaults. There were wooden horses for timid infants to ride upon, and live donkeys for bolder. Bowling alleys and billiard parlors resounded with crash and click. Firearms rattled in shooting galleries. Refreshment stalls offered a bewildering variety of food. And beer reigned supreme, the favorite potable.

In addition to these popular attractions, free acts were offered to the patrons. One was a large-scale spectacle of the Battle of Magenta, which drew large audiences. The crowds were exceedingly cosmopolitan, although Germans predominated. Irish, English, French and Italians were also well represented, and a scattering of perhaps a dozen other nationalities, all embryonic Americans.

Jones's Wood had excellent facilities to care for large outings. On September 12, 1860, the Democrats for Stephen A. Douglas held a grand political carnival at which 30,000 people were present. During the same year, the great National Shooting Festival was held there. Little is known about the guiding genius of the park, but indications point to several large breweries as its managers. In 1851, a bill was passed to make Jones's Wood a public park, but it was later repealed and a more centrally located area chosen. The site selected became Central Park, now internationally famous. The end of Jones's Wood came in the eighteen-sixties, when the city, to provide for the rapid population growth, laid out new streets northward, and the park site was soon crisscrossed with family dwellings.

One of Ohio's large-scale amusement parks was originally an apple orchard which, some time before 1860, had been converted into a picnic ground known as Parker's Grove. Located in the Ohio River valley, about twenty miles from Cincinnati, the grove contained many large shade trees, which arched over benches and picnic tables, a dance hall and refreshment stands. Swings and a merry-go-round, the latter operated by mule power, furnished much of the entertainment. Target shooting at a wooden eagle perched on top of a tall mast was also an attraction, and a small saluting cannon, set up on the shore of the river, welcomed arriving picnickers. Although no boats operated regularly to the grove, river steamers could be chartered by the day.

In 1883, the grove was taken over by new management and extensive improvements were made, and in 1886 it was opened as an amusement park called Ohio Grove, the Coney Island of the West. The subtitle became its more popular designation, and before the first season was over it became generally known as "Coney Island." At the turn of the century, one of the attractions of the park was an automobile ride over a short oval course. Autos being a curiosity at that time, people stood patiently in line, to take their first ride in the newfangled horseless buggy.

An important part of a day's outing, then as well as today, was the steamboat ride from Cincinnati to the park and back. For this purpose the then modern excursion steamer *Island Queen,* reputed to be the largest and most elaborate in the world, and valued at $1,000,000, was put in operation. After a quarter of a century of splendid service, in September, 1947, while moored at its dock in Pittsburgh, waiting to take aboard excursionists, a fire and explosion wrecked the famous boat.

As it was located on the shore of the Ohio River, the park was many times devastated by spring floods. Once it was inundated to a depth of fifty-two feet and suffered enormous damage. After each flood, extensive repairs and rebuilding were necessary, thus after each disaster a finer and more attractive resort emerged.

The disastrous St. Louis cyclone of 1896 was responsible for the beginning of Forest Park Highlands, which was developed thereafter into a very successful amusement park. For several decades prior to the cyclone, the site of the present park had been a picnic grove and beer garden. At the time of the disaster, its operators were indebted to the Home Brewing Company to the amount of $10,000. With the grove wrecked, the operators turned it over to the brewing company to settle the indebtedness. The brewers thereupon installed amusement rides, a summer theater, a bandstand, and other modern entertainment devices. Thus began Forest Park Highlands.

The next step was to engage John D. Hopkins, then nationally known as the "ten, twent', thirt' " king of vaudeville. Hopkins succeeded in bringing the biggest stars in the theatrical and entertainment world of that period to the park. Among them, over the years, were Mrs. Leslie Carter, Della Fox, Elsie Janis, Frank Crummit, Jack Dempsey, "Gentleman Jim" Corbett and Joseph K. Emmett. Hopkins also booked bands for outdoor concerts. They included the bands of such famous band leaders as Roger Pryor, Sousa, Liberatti, Karyl, Weber, Creatore, and other topnotchers of the early part of the twentieth century. Moving-picture competition, in 1920, forced discontinuance of vaudeville and stage entertainers, and the large theater was used for other amusement purposes.

Glen Echo Amusement Park, in Glen Echo, Maryland, about twelve miles from Washington, D. C., has an interesting history. The ground now occupied by the park was originally developed in 1883 by the Baltzlay Brothers, as a national Chautauqua settlement. It was a branch of the educational and religious movement that began in upstate New York. The settlement spread over twenty acres.

Although housed in one of the finest Chautauqua buildings in America, in which was installed the largest and most magnificent organ in the country, the Chautauqua undertaking failed. Its main building still stands in the park, having been converted into a fun house with a seating capacity of 15,000. In 1889, the property was acquired by a street railway company as a summer resort. In 1911, the Glen Echo Park Company was organized, and since then has managed the enterprise. Modernistic illumination was installed and objectionable devices eliminated, to be replaced by up-to-date novelties with wider appeal. The park is reputed to be one of the most successful in the country.

One of Connecticut's oldest and most successful amusement resorts is Lake Compounce Park, which nestles in the foothills of the lower Berkshires, near Bristol. Lake Compounce Park was organized as an amusement center in 1846, but its history dates back to the middle of the seventeenth century, when a tribe of Tunix Indians and their chief, Compound, who occupied the land, deeded it to some early settlers. The original deed, executed May 22, 1673, bears the grimy fingermarks or totems of forty Indians. John Norton, ancestor of the present owners of Compounce, developed the shores of the lake as a recreation area in the early nineteenth century. New roads were constructed, bowling alleys and a revolving swing installed, and a fleet of rowboats brought to the lake.

In 1847, barbecues that soon became famous were introduced, and the park sprang into favor as an outing place for civic, social and fraternal organizations. The historic Crocodile Club, whose qualifications for participation include an invitation from a member, gentlemanly conduct, and a dollar and a half for the dinner, has held its annual get-together there for years. Other old-timers are the Spiritualist Association, the Old Men's Association, the Baldheaded Club, and the Sphinx Temple.

In 1851, Isaac Pierce, a neighbor, was taken into partnership, and today Pierce and Norton is the oldest firm of park operators in the country.

Riverview Park in Chicago had its origin in a small picnic grove that the Sharpshooters Club began to use for their outings in 1879. This twenty-six-acre patch of green was located on Western Avenue, extending to the northern branch of the Chicago River. As the membership of the club increased, the picnic grove also was extended until the resort covered one hundred and forty acres, containing two miles of Midway lined with amusement devices of every description. In 1904, it was given its present name of Riverview Park. Large-scale shows were staged, among them the "Battle of the Monitor and Merrimac," the "Sinking of the Titanic," and "Creation." Thrill rides were introduced, replacing the old Figure Eight coaster. In 1937, a sensational parachute jump was inaugurated. This steel structure rises to a height of two hundred and twenty feet, and thrill-seekers find the descent from its top a realistic experience. Riverview claims the title of Chicago's World's Fair of Fun.

Another early picnic grove was located in Union Hill, New Jersey, and known as Schuetzen Park. It was established in 1875 by a group of fraternal and social organizations for the purpose of supporting an old folks' home. The park covered about two hundred acres of woodland, which included a small pond. A number of amusement attractions were operated to entertain visitors, who, on special occasions, numbered into the thousands. Simple, old-fashioned games, and contests of agility and skill, especially for children, were featured, such as sack races, ducking for apples, climbing the greased pole, washtub races on the pond, catching the greased pig, and pie-eating competitions. For the bolder lady visitors there were woodchopping contests, three-legged races, potato-peeling competitions, egg rolling, and similar games. The men enjoyed bowling, target shooting, and gymnastics. One famous laugh-device was a "rejuvenating machine." A woman made up as old and decrepit was unceremoniously thrust into a large hopper in the contraption and, after an attendant had turned a crank and mumbled a mysterious abracadabra, she emerged as a handsome young lady. Into the interior chamber of another device, several live poodle dogs were thrown, and after the machine had done its work, the spectators were startled to see, at the far end of the device, a long string of sausages tumble out.

After many years of successful operation along old-fashioned lines, Schuetzen Park was taken over by a syndicate, in 1924, and converted into a modern amusement park with big-time mechanical contrivances as the featured entertainment.

One of the country's leading amusement parks is Kennywood, on the banks of the historic Monongahela River, about eleven miles from Pittsburgh. Its origin and development is unusually interesting. The park was originally a primitive picnic grove established by Thomas Jenkins Kenny, who purchased the tract of land on which it is located after crossing the Alleghany Mountains, in 1818. For the three hundred and sixty-five richly wooded acres, he gave five pounds ten shillings sixpence and a barrel of whiskey. The tract not only abounded in natural beauty but contained rich deposits of coal, which brought great wealth to Kenny. He welcomed family picnickers, and, in fact, invited them to use Kenny's Grove for their outings. It was accessible either by the old Braddock Road, or by boats, which could tie up at the river landing stages.

In 1898, a one-hundred-and-forty-one-acre tract of the

Kenny property was leased by the Mellon family of Pittsburgh, who proceeded to construct a "trolley park," to increase business for their street railway system. Several sturdy buildings were erected and some amusement devices were installed, including a merry-go-round and a Figure Eight coaster. In one section of the park were rows of hitching posts for the horse-and-buggy trade. Today, the resort has parking space for 6,000 automobiles. In 1907, the operating company later to become the Kennywood Park Corporation took over, and since then the park has been conducted as an elaborate amusement resort. The early moving-picture success, "The Great Train Robbery," was an attraction in the early nineteen-hundreds, as well as its counterpart, which used a real train of cars in a live production. A large scenic railway and fast coasters were early introduced. Free outdoor entertainments were given with outstanding talent starred. A children's feature is a miniature park called Kiddieland, in which sixteen amusements of the big park are scaled down to preschool size. Many fraternal, school, industrial and community organizations hold their outings at the park.

Overlooking the dam on the Schuylkill River, on the outskirts of Philadelphia, was Lemon Hill, a century ago. This picnic grove was a prominent gathering place for social organizations and one of the early amusement centers of the country. Formerly the country seat of Henry Pratt, it was converted into a beer garden and recreation spot in 1835, and for fifty years was a favorite outing place for many social organizations which flourished during that period. There the German-American singing societies and Turnvereins held their festivals, and facilities for gymnastics, target shooting, dancing and other recreational activities were provided. On certain occasions these organizations marched out of the city to the grove, dressed in colorful uniforms, with brass bands playing fortissimo leading the way. Rank after rank, company after company, they climbed the slope of Lemon Hill, to disband for speeches, athletic exercises and competitive sports of many kinds, in which they were joined by their wives and sweethearts. Refreshments were plentiful and beer flowed freely. After the day's outing, they marched back to the city, again led by flags and music, and rarely, if ever, overstepped the bounds of perfect decorum. Lemon Hill later became part of Philadelphia's famous Fairmount Park, in which the great Centennial Exposition of 1876 was held.

To describe in any detail the history of Elitch's Gardens in Denver, Colorado, would constitute a major undertaking. Since its earliest days, Elitch's Gardens has been unique. It was not started as an amusement park, nor even as a picnic grove. It began as a lowly vegetable garden, to supply freshly picked vegetables for the restaurant that John Elitch operated. The garden was located on a sixteen-acre tract of land in the suburbs of Denver, west of the city.

Mary Elitch, John's wife, was a very remarkable woman. She possessed not only rare executive ability; she was also endowed with a keen artistic appreciation and a great love for flowers. She was not satisfied with turning their small farm into a mere vegetable garden. For her own enjoyment, she planted flowers and trees and shrubs. Within a few years, the vegetable garden became a place of beauty that attracted many visitors.

Mrs. Elitch was a generous woman. She enjoyed having strangers ask permission to look at the flowers, but the number of requests increased to such an extent that they absorbed too much of her time. It was thereupon decided to enlarge the gardens, add a few rare birds and small animals, build a fence around the property, and open it to the public. On May 1, 1890, the gardens—naturally known as Elitch's Gardens—began the existence as a privately operated public park. Later, more animals were added to the small zoo, the flowerbeds were made more attractive with rare plants and unusual flowers, and a band concert was introduced.

In May, 1892, Elitch's Theater was opened. The first presentations at this famous theater were free to all who visited the Gardens, and were mainly light-opera productions and vaudeville acts. The audience traveled to the Gardens in horse cars and carriages, sat on rough benches in the open-air theater without complaint, and applauded artists and performers brought to Denver from the East who were headliners in their profession. The Gardens became Denver's most popular resort almost overnight.

In 1897, a stock company was established at Elitch's. The theater was enclosed and an admission was charged. The initial performance was *Helene,* with James Jeill and Jane Kenmark playing the leading roles. Sometime before this, Mr. Elitch had died, but Mrs. Elitch, now Mrs. Elitch Long, carried on. She spared no expense in engaging the greatest actors and actresses of the day, and Elitch's became as famous in Denver as the Metropolitan Opera House is in New York.

Among the artists who appeared on the Elitch stage were Sarah Bernhardt, George Arliss, Blanche Bates, Cecil DeMille (then a juvenile), and Henrietta Crosman. Douglas Fairbanks and Harold Lloyd made their first stage appearances at Elitch's.

During these years, Elitch's was building up an enviable reputation. The high standards established by Mrs. Elitch Long were kept up, and proper decorum and obedience to strict rules of deportment were demanded of the public.

In 1916, the Gardens came under new management. The zoological garden was thrust into the background and modern amusement devices took its place. The horticultural emphasis, which had originally inspired the Gardens, was maintained and elaborated under the management of Mrs. Elitch Long's successors, and thousands of people annually pay admission for no other purpose than to visit the lovely flowerbeds and stroll through the flower-bordered paths in the old apple orchard. Thus Elitch's Gardens grew into a great recreational center, a monument to one of America's outstanding women in the amusement business.

Playland, located in Rye, a few miles north of the New York City limits, on the lower end of Long Island Sound, is a magnificent amusement park that is wholly owned and operated by the Westchester County Playland Commission, a politically appointed body of nonpolitical individuals, whose only compensation is their personal gratification in providing recreational facilities for the public. It is one of the outstanding examples of successful municipal operation in the amusement field.

Playland was the idea of a few socially minded men who decided that "keep off the grass" signs in public parks was the wrong way to further wholesome, active recreation for the people.

Their theory consisted of three premises: first, that restless American humanity, more and more, is being forced into physical inertia by small-apartment living, the automobile, and city restrictions; second, that if harmonious surroundings are offered, even the most sedentary individual will take some advantage of easily accessible recreational facilities; and third, that a recreation park that is properly designed and equipped to give the public what it needs will attract enough patronage to make it profitable.

Playland inherited a site formerly known as Paradise Park. Paradise, which had occupied the shorefront for many years, had become a haunt for roughs and undesirables, and it bore an unsavory reputation because of its disorderly patronage. After acquiring the park through condemnation proceedings, the new park commission demolished it and began the construction of Playland, in 1928. It was opened to the public the following year.

The grounds at Playland are picturesquely laid out. Beautiful lawns and flowerbeds border the walks. An assortment of thrill rides, facing a wide arcade, attract the more daring funlovers. A mall, with a riot of flowerbeds, ends at a high music tower, equipped with powerful loudspeakers for concerts and vocal entertainment. In addition, it is used to make public announcements and invite parents to call at the "pen" for their "lost" children.

Besides the thrill rides, trips in seaplanes or fast motorboats on the waters of the Sound may be enjoyed for a small fee. There are extensive automobile parking spaces, and a well-equipped picnic ground. A gently sloping beach of fine sand extends in a graceful curve along the shorefront. Plenty of modern bathhouses are available. A substantially built casino houses a shore-dinner restaurant, a grill, and an old-fashioned clambake. Ice and roller skating are featured during the winter season. All of these attractions are operated by the Playland Commission through its managing director, with the exception of a few small booths rented to concessionaires. While the management tolerates no rowdiness the multitude of visitors is in no other way restricted from having a joyous day's outing at Playland.

CHAPTER 3

Carnivals

In many sections of the country there are no permanent outdoor amusement parks. The public, therefore, must rely on ambulant purveyors of this type of entertainment—the carnival companies. These organizations consist of a collection of fun devices, including thrill rides, side shows, and a great variety of concessions. The larger companies have their own railroad cars, motor trucks, trailers, and other transportation facilities, which enable them to move their bulky equipment expeditiously. This equipment is specially designed to permit rapid erection and dismantling.

Carnival companies play weekly stands in cities and towns which are centers of well-populated rural sections. They erect their attractions in the public streets and squares, on vacant lots or on city outskirts. The dates are often promoted in conjunction with some local civic organization, which receives a small percentage of the profits, to be donated to some worthy cause. These companies are also the main amusement attractions at state and county fairs and annual festivals. Some of them have grown into extremely elaborate shows, offering besides the many attractions common to all carnival companies additional, sensational free acts, and brilliant illumination at night. For the latter purpose they carry large portable electric generating plants, with high, built-in folding light towers. The capital invested and the number of personnel employed in some carnival companies is greater than in the small circuses. This type of carnival company is known as a railroad show.

Transportation is one of the major problems of the carnival operators. In recent years, a number of them have shifted from railroad transportation to fleets of motor trucks and trailers, in which they carry their equipment over the public highways. Many of the concessionaires attached to carnivals own well-equipped house-trailers, drawn by automobile, in which they make their home, and follow the show from place to place, a practice common in the early European caravans. Some of the smaller carnival companies travel by railroad freight, at a slower pace. These are known as gilly shows.

Formerly, the visitors to a carnival show set up in a town were free to circulate at will, in and out of the amusement area, but of late some of the operators have contrived a temporary enclosure around the show grounds and charge an admission at the gate.

Carnival companies as such were first organized in 1894 and formerly were known as street fairs, imitating the ancient European fairs and kermesses. In 1895, fifteen companies were in operation in the United States. This number had increased to three hundred and fifty in 1940. The rapid growth of the carnival business in the nineties brought into being many evils that cast odium upon these shows which was a handicap to well-conducted outfits. Unscrupulous operators, who had little invested in a show, often permitted petty gambling, cheating, and lewd displays, to separate the gullible from their money. They were also accused of bribing local officials to safeguard themselves from prosecution. As a consequence of strong public protests a number of cities and towns throughout the country refused to permit any carnival company, good or bad, to operate.

This state of affairs could not continue and during the past several decades a great change has taken place. A different type of men have entered the field, large amounts of capital have been invested, and capable managers have taken charge. The show aggregations have become larger, with modern devices and clean shows. Within a few years they won back their reputation for honesty and propriety, and for being great ambulant attractions. Through these developments, a great part of the damage caused by the early dishonest operators has been obliterated. Besides the American Carnival Association, there are several regional associations with large memberships which monitor and promote the carnival business.

CHAPTER 4

Coney Island

The most widely known amusement resort in the United States is Coney Island. It is located on a stretch of ocean beach reaching from Sheepshead Bay to Gravesend Bay, near the entrance to New York Harbor, and is a part of New York City's Borough of Brooklyn. Its early history as an amusement center abounds with unsavory and illegal activities, and for a time it was exploited by unscrupulous politicians for personal financial gain. Toward the end of the last century there came a change; some of the exploiters were sent to prison, and a new era dawned.

In the eighties, several large hotels were built in the eastern section of Coney Island, at Brighton Beach and Manhattan Beach, and spectacular fireworks displays, captive balloon ascensions, and open-air concerts under the direction of noted bandleaders were introduced for entertainment. The large hotels became summer headquarters for nationally known political leaders, such as Tom Platt, and leading members of the sporting fraternity, led by Diamond Jim Brady, congregated there. Adjoining the hotels was the Brighton Beach race track where spectators gloried in the Garrison finish.

Toward the western sections of Coney, where the common folk gathered in large numbers, extensive developments also took place. The large observation tower and the elaborate sea-beach palace from the Philadelphia Exposition of 1876 were moved there and reassembled. Two large ocean piers were constructed and a line of iron steamboats began service between the resort and Manhattan. Roller coasters were installed. The camera obscura was popular, and an amusement device called the Wooden Elephant added to the Island's fame, which reached its pinnacle with the erection of three modern amusement parks in the early nineties. This section of the Island has remained the principle amusement center up to the present time, but great changes have taken place in the Manhattan Beach and Brighton Beach sections. The hotels, fireworks, race tracks and concerts have disappeared, and have been replaced by a colony of huge apartment houses.

The modern amusement park originated in Coney Island. The first undertaking, enclosed by a fence and charging admission at the gate, was Sea Lion Park, established in 1895 by Captain Paul Boyton, who had acquired a large plot of meadowland on the north side of Surf Avenue. This he converted into an amusement area by installing a number of aquatic exhibitions which included forty sea lions, trained to juggle balls and perform other tricks before the public. From the sea lions the park derived its name. Boyton also promoted water races, in which the contestants wore pneumatic shoes he had invented, and aquatic ball games on water bicycles. In addition, he built the first large-scale Shoot-the-Chutes in America. An old-mill water ride, a gee-way, and cages of live wolves were added attractions. In 1899, a large ballroom was built, and through Boyton's untiring efforts the park grew steadily in popularity. In 1902, it was taken over by Thompson and Dundy, who were Coney Island amusement entrepreneurs for many years afterward.

Paul Boyton had an amazing career. After roaming the seas for several years, young Boyton entered the Lifesaving Service at Atlantic City, New Jersey. While in this service, he heard of a new lifesaving invention, which afterward made him famous. It was the brain child of C. S. Merriman, of Iowa. It consisted of a suit made of vulcanized rubber that covered all parts of the body except the face. It had five air chambers and, when inflated, permitted the wearer to either float recumbent or assume an upright position in the water. It was the plan of the inventor to rent these suits to timid ocean travelers. Here was something that greatly appealed to Boyton. He practiced daily in the rubber suit, paddling over the surface of the ocean with a small two-bladed paddle.

In the fall of 1874, he conceived a bold stunt to publicize the rubber suit; he planned to board a steamer for Europe and, when two hundred miles out of New York, jump overboard in his suit and paddle back to shore. The announcement of this plan created a sensation and all steamer captains were on watch to prevent such a foolhardy act.

On October 11, 1874, he quietly boarded the steamer *Queen,* with his outfit. He concealed it behind a lifeboat, and on his second day out from New York he prepared to make his leap. The crew detected him, however, and frustrated his attempt. His outfit was taken from him by order of the captain, and he was confined to his cabin. Daily he pleaded with the captain, who finally agreed that Boyton might leave the ship in his rubber suit when they were off the Irish coast.

On October 21, Cape Clear Light came into sight and Boyton prepared for his adventurous trip. The captain had explained to him that he should be prepared for a rough landing on the steep, rocky, wave-beaten shore. Early on a misty morning he was lowered overboard by a rope, and after assuring the breathless crew and passengers that he was all right, he paddled away and the steamer resumed its course. How he landed under great difficulties and scared the wits out of the astonished lighthouse keeper, and later the inhabitants of the small Irish town, was a thrilling story.

After giving exhibitions on numerous rivers in Europe, he returned to New York, in December, 1878. His fame had preceeded him and he was invited to demonstrate his remarkable suit in this country. He first journeyed down the Mississippi River from Alton to St. Louis, and later on other rivers, for long distances. Wherever he went he aroused enormous public interest.

In the eighties, he devoted his time to assembling a large water circus, which he presented with great success at various exhibitions. It was this circus he brought to Coney Island, in 1895, and established in his new Sea Lion Park.

A cause of considerable annoyance to him was the persistence with which many people misspelled his name; Boynton instead of Boyton. Until the day he died, in Brooklyn, in 1924, he would fly into a rage over this error.

The second amusement park in Coney Island was established by George C. Tilyou, in 1897. The turning point in Tilyou's fortunes came when he acquired a new invention from the British inventor J. W. Cawdry. This device was a mechanical racecourse and Tilyou installed it on a large plot of ground facing the beach. It consisted of an undulant, metal track over which large wooden horses ran on wheels, coasting by gravity and climbing by momentum, in imitation of a horse race. It was called the Steeplechase and proved a great success from the start.

One day Tilyou came across a group of boys playing on the beach. They had rigged a crude platform on the wheel of an old overturned cart. Several of the boys, sitting on the platform, were tossed into space when their companions spun the wheel. Tilyou determined to make a similar use of centrifugal force. He constructed a large, smooth, round table, attached a motor to turn it, and fixed cushions around the rim as a buffer for the passengers, who, sitting in the center, were flung toward the circumference as the speed of the revolving table increased. He named this new fun device the Human Roulette and it proved a tremendous success.

Tilyou thereafter introduced or invented one startling fun device after another. The racecourse was enlarged, more ground space was acquired, and the place soon became a full-fledged amusement resort, which Tilyou named Steeplechase Park. A roller coaster and other long thrill rides were added, and a large modern ballroom. About this time Tilyou introduced his famous combination ticket, which admitted the holder to practically all of the attractions in the park at less than the total cost of buying tickets for each one separately. The many novel fun-provoking devices installed in the park attracted wide attention and that section became known and was advertised as the Funny Place. Many of the devices were copied by amusement operators in other parts of the country. Tilyou was also instrumental in establishing similar amusement centers in other locations, notably in San Francisco, and Atlantic City.

For years, Coney Island had suffered serious losses by fire, which destroyed large sections of the amusement zone. Because of the flimsy nature of much of the construction, small fires spread rapidly and got beyond control of local efforts to extinguish them before city fire apparatus could arrive. Tilyou had not reckoned with this ruthless and unpredictable enemy. A lighted cigarette carelessly thrown into a waste receptacle, in an attraction known as the Cave of the Winds, in Steeplechase Park, caused a long-smoldering fire to break out four o'clock in the morning, on July 28, 1907. The rapidly spreading flames could not be checked with the inadequate fire-fighting equipment available, and within a few hours the entire park, together with some neighboring property, was destroyed by the flames. The total loss approximated $1,404,000, of which about one million dollars were sustained by the park.

Undaunted by the great catastrophe, Tilyou set to work to rebuild the park on a larger and more elaborate scale. In due time a mammoth steel-and-glass building was erected, with new fun-provoking devices and improved reproductions of old ones. Among them was the famous public stage on which first-time visitors unsuspectingly took part in the acts in full view of more aware audiences that roared with laughter.

There were bumper rides and slides, compressed-air tricks, and many other surprise stunts that kept the great crowds of people in a festive mood. Surrounding the building were long and speedy thrill rides, and a magnificent swimming pool. They still exist as part of the one remaining large-scale amusement park in Coney Island, but George C. Tilyou died in 1914.

Another of Coney Island's parks that made history was Luna Park. It was the first modern amusement park to install a midway, in imitation of these sections which were features of world's fairs. It included a bewildering variety of amusement attractions housed in specially designed structures, adorned with towers and minarets, and bathed in extraordinary, brilliant, and many-hued illumination. The park was conceived and designed by Frederick W. Thompson, and when opened to the public caused a sensation in the outdoor-amusement field. No park ever received so much acclaim and favorable comment from press and public, and it created a new era in amusement-park development.

Frederick W. Thompson was an impecunious youth who began life in Nashville, Tennessee, as a mechanical draftsman and engineer. His career in the amusement field began when his native state held an exposition. Thompson, only twenty-four years old at that time, received a commission to design several buildings for the fair. Upon completion of the work, he was unable to collect his fee because the promoters had run short of funds. Finally he agreed to take over one of the buildings in payment, and proceeded to install a small show he had conceived. His success was only moderate but sufficient to interest him in the exposition field.

Thompson next appeared at the Omaha Exposition, in 1898. He applied for a show concession, but discovered that an application for a somewhat similar concession had been applied for by a local man named Elmer S. Dundy. Dundy was a clerk in the United States Court at Omaha. He had "pull" and thus received the concession, but he was keen enough to see that Thompson had a better-developed scheme than his own and offered to pool interests with him. Together they staged their show and made some money, but Dundy unwisely remained at the exposition a second year, and lost what he had gained the year before. He decided to recoup his losses by further activities in the amusement business. Resigning his clerkship, he went to Buffalo, New York, where the Pan-American Exposition was being organized. There the former partners met again and united as Thompson and Dundy. After securing a concession, they installed a new illusion show, conceived by Thompson, which they named A Trip to the Moon. It soon became a financial success. After the close of the exposition they went to Coney Island and set up their attraction in Tilyou's Steeplechase Park, in 1902, on a concession basis.

During that summer, the partners conceived a new type of amusement park, entirely different from those then existing. They negotiated with Paul Boyton for his Sea Lion Park and in the fall of that year became its owners. The work of remodeling Sea Lion Park started immediately, for which large sums of money were necessary. The two partners pooled their financial resources and borrowed to the limit. They raised $800,000. This gave Thompson an opportunity to employ his genius to its fullest extent. He not only conceived the architectural design of the park, he also supervised the construction. Thompson had no sense of the value of money and utterly disregarded costs, but his partner Dundy was just the opposite and became known as the "safety valve" of the firm.

Construction of the park continued all winter, with construction costs mounting higher than was estimated. The partners not only spent all the money they could raise, but completely exhausted their credit. On the opening day their cash capital had sunk to twenty-two dollars, just enough to place change in the ticket booths. In order to enhance their personal appearance for the opening night, they had to avail themselves of the wardrobe of their Japanese butler and housekeeper, who had faithfully kept their bachelor quarters for months, without receiving his pay.

The new park covered about forty acres of ground, with a small lake in the center in which the boats of the Shoot-the-Chutes, which Paul Boyton had installed, bounced over the surface. All of the old devices they found in Sea Lion Park had either been removed or modernized. When completed, it was the most startling and attractive amusement center in the country. It was named Luna Park.

Preceding the opening of the park, an extensive advertising campaign had keyed press and public to a high pitch of expectation and excitement and the opening was awaited with keen interest.

On May 16, 1903, at eight o'clock in the evening, 250,000 electric lights were switched on. After a short ceremony, the five-lane gate was thrown open and a great stream of visitors poured in. By half past ten it was announced that 43,000 persons had entered the park. The admission fee was ten cents.

Besides numerous small concessions, the following attractions were presented at the opening:

Grand Promenade
Eskimo Village
Shoot-the-Chutes
Trip to the North Pole
German Village
Old Mill
Grand Ballroom
Monkey Theater
Infant Incubator
Chinese Theater
Scinta's Band
Canals of Venice
Electric Tower
Miniature Railway
Hagenbeck's Wild Animals
War of Worlds
Dragon's Gorge
Helter-Skelter

The fame of Luna Park spread rapidly; press and public both voicing approval. During the decade of park development that followed, Luna was a major influence.

After several years of successful park operation, Thompson and Dundy entered the theatrical field, and in 1905 built the great Hippodrome in New York City, at a cost of $4,000,000. Their financial backer was sportsman John W. Gates, known as "Bet-a-million" Gates. The Hippodrome, designed by

Thompson, occupied the entire blockfront on the east side of Sixth Avenue from West Forty-third to West Forty-fourth streets. Its capacious interior accommodated 6,100 persons in comfort. In this large structure, they produced costly spectacular attractions combining stage and circus acts, which included the Society Circus, on a scale exceeding in magnitude any other show of similar character ever produced in the United States.

After operating these costly productions for several years Thompson and Dundy got into financial difficulties and in 1908 control of the Hippodrome passed to the Shuberts. The year before, Dundy, after suffering from a long illness, died in New York City. The Hippodrome's colorful career as a great show center came to an end in 1939. It was dismantled by housewreckers, the site remaining vacant throughout the war years and after, until a huge office building was erected there, in 1952.

Thompson continued his theatrical activities, as well as managing Luna Park. He married Mabel Taliaferro and starred her in several plays including *Polly of the Circus*. He also produced successfully *Brewster's Millions* and *Via Wireless*.

Along with managing Luna Park and his theatrical interest, Thompson also found time for sports, and for a while was the owner of a private yacht. However, in 1912 his financial status had sunk to a very low level, and he was compelled to relinquish control of Luna Park to his creditors. The ensuing years brought only a losing struggle. His attempt to produce a "Grand Toyland" at the San Francisco Exposition ended in failure. He died in New York City, in 1919, at the age of forty-six.

The new owners of Luna Park soon realized that it could not run by its own momentum. Nor was it the gold mine they had expected. The mainspring of showmanship seemed to be missing. Riding along season after season, without adding new attractions, had caused a decline in business. One manager after another failed to put the park on a paying basis, and for several years it remained idle. In 1944, a disastrous fire destroyed half of the park. The structures that remained were dismantled, and the area was covered by a mass of debris for several years. In 1949, the grounds were cleared for a parking space, which rang down the final curtain on the once-famous park.

The success of Luna Park during its first season led other promoters to believe that the crowds that flocked to Coney Island would make another and more elaborate park profitable. Dreamland Park was the result. This enterprise was organized as the Wonderland Park Corporation by former State Senator William H. Reynolds and a group of local political satellites. The title of the corporation was later changed to Dreamland Park Corporation and a site extending from Surf Avenue to the Beach, including one of the ocean piers and a public street, was acquired. Plans were prepared by the architects Kirby, Pettit and Green. Construction by the Edward Johnson Company began late in 1903. The estimated cost was $3,500,000. There were no difficulties in financing the project and work proceeded rapidly.

On May 14, 1904, the gates of Dreamland Park were thrown open to 135,000 visitors. The park was a triumph of architectural ingenuity. Elaborate amusement structures with gaudy façades fronted on broad promenades. Brilliantly illuminated at night, the effect was magnificent. A number of new attractions were installed, along with a few that had been pirated from Luna Park. Frank C. Bostock presented his wild animal show, featuring his trainer Captain J. Bonavita. The Infant Incubator, it was announced, would exhibit newborn infants under the care of a corps of trained nurses. Wormwood presented his dog and monkey show and the Midget Village had a population of three hundred Liliputians, all housed in a miniature reproduction of old Nuremberg in the fifteenth century. Coasting through Switzerland was a scenic railway, with sleighs jingling over snow-peaked Alps against a vast panorama.

The laugh-producers were the Haunted Swing and the

Funny Room, and the Canals of Venice floated visitors in gondolas through beautifully reproduced parts of Venice. The tracks of the Thompson Scenic Railway extended beyond the limits of the park, and the great Shoot-the-Chutes had double runways, its rear extending beyond the beach into the ocean. A mammoth ballroom, which occupied the upper deck of the pier, was acclaimed as the largest in the world. Thomas Ryan presented his magnificent show, *Creation,* to large, appreciative audiences. In the center of the park stood the great Maxim circle swing. In the Chilkoot Pass, patrons slid through a labyrinth of obstacles into pockets, those sliding into one bearing the right number winning a Teddy Bear. Santos-Dumont's airship was in operation and frequent trips over the ocean were made. Hell Gate, housed in a large building, engulfed boatloads of visitors who disappeared in the center of a great whirlpool, to be lost to view until they appeared at the exit.

The most exciting show was Fighting Flames, introduced by Chief Charles McCarthy. In this show, a full-sized, six-story building was set on fire, and the noisy arrival of the fire-fighting apparatus and the breathtaking rescues of the acting firemen made a thrilling performance. In the center of the lagoon stood a magnificent tower, a copy of the famous Giralda tower of Seville. It rose to a height of three hundred feet and formed the principal feature of the park. It was illuminated from foundation to summit by thousands of electric lights. Dreamland Park was described as the Gibraltar of the amusement world.

Senator Reynolds, the organizer of Dreamland Park, was the manager of the Montauk Theater in Brooklyn and well known as a playboy along Broadway. As a stunt to promote Dreamland, he got several theatrical stars to take over concessions, accompanied by a flare of publicity. Peter F. Daily, of Weber and Fields, introduced a Parisian novelty. Marie Dressler invested in the peanut-and-popcorn concession, dressing her young venders in natty uniforms. E. C. Boyce presented the Fall of Pompeii and a submarine boat. Andrew

Mack, the popular Irish singing comedian, hooked the Fish Pond concession. His tin fish had clockwork mechanisms in their bellies which propelled them erratically around in a large tank of water. From their mouths small rings protruded, through which fishermen sought to fasten their hooks. Besides these come-ons there were a number of legitimate concessions scattered throughout the park. The first director and manager of concessions at Dreamland was Leonard B. Schloss.

Coney Island now had three major amusement parks and needless to say rivalry had become intense. All kinds of publicity stunts were concocted by the managers. Tilyou bought an old square-rigged sailing ship and had it beached in front of Steeplechase Park, to attract a crowd to the entrance gate. Thompson and Dundy announced that an elephant would be executed at Luna Park, which brought the reporters on the run. Topsy, the elephant, having become a bad girl, was led out in front of the crowd and fed on alleged poisoned carrots. But she disliked the taste of the doctored carrots, spat them out, and later had to be electrocuted, thus providing further publicity. Dreamland Park decided to stage an airplane flight, a great novelty at that time. Rudolf Dressler, a local shoemaker and chronic airplane inventor, was engaged to launch his newest flying machine from the top of the Shoot-the-Chutes in the park. On a fine day in June, after the event had been duly publicized, the weird-looking device was hauled to the top of the chutes and suspended by a cord from an outrigger, fifty feet above the surface of the ocean. The new airplane consisted of a wicker basket with muslin-covered wings hinged to its sides. The wings were operated by the pilot, by pulling cords and pushing pedals. Dressler claimed that anyone could fly his plane, and enlisted a local character known as Dutch Charley to make the first flight. After Charley had taken his seat in the basket, and had received detailed instructions from the inventor, he was cautioned not to fly farther than Rockaway on his first trip. A short ceremony was held, and then Charley began to pedal furiously. The cord was then cut, loosening the plane, but instead of soaring into the air, Charley and the basket plumped down into the water below. He was rescued by lifeguards.

The promotion publicity for the three parks became less effective as time went on, but an accident finally focused nation-wide attention on Coney Island. On the night of May 24, 1911, workmen were busy repairing Hell Gate in Dreamland Park for the season's opening, the following day. Suddenly a tar pot, which had become overheated, set the building on fire, and within an incredibly short time the entire park was in flames. A double third alarm brought fire-fighting apparatus from every part of Brooklyn and New York City, and some points of Long Island. At one time forty-five fire companies were fighting the flames. Two fireboats were dispatched from the city, but were unable to help because of the dense smoke. After fighting the flames for several hours, the firemen were compelled to relinquish the park to the flames and concentrate their efforts on the neighboring property. The park was totally destroyed. New York newspapers issued extras with glaring headlines which proclaimed the entire destruction of Coney Island.

The excitement created by the fire was further heightened when it became known that the wild animals in the Bostock Arena had broken out of their cages, goaded to fear by the flames, and were running wild in the streets, causing a panic and sending people scurrying in all directions. Some of the animals were docile and easily recaptured, but the more ferocious had to be shot.

The loss, including neighboring property, exceeded $5,000,000, only a portion of which was covered by insurance. Dreamland was not rebuilt after the fire, and the site was finally acquired by the City of New York and turned into a public park.

The number of visitors to present-day Coney Island increases every year, each succeeding year establishing a new all-time high record of attendance. Saturdays and Sundays bring the largest crowds of pleasure-seekers. On one day, in 1952, visitors were estimated to number 1,600,000.

Some important dates in the history of Coney Island are the following:

1524	Florentine navigator Verrazzano set foot on Coney Island
1609	Henry Hudson landed a boat from his ship the *Half Moon* to explore Island
1644	Became known as Coney Island
1650	Mattanob Indians sold greater portion of Coney Island for a few knives, hatchets, gunlocks and wampum
1757	First map of Coney Island made
1803	Coney Island managed by town of Gravesend
1824	Eddy and Hart built first pavilion
1828	Shell Road built, with tollgate at Van Sicklen farm
1845	First horsecar line to Coney Island

CHAPTER 5

Amusement Devices

With the development of the amusement park in America, a demand for fun-provoking devices was created, and the introduction of these devices, in turn, attracted an ever-growing number of people to the parks. As a consequence inventors were prompted to devise new thrillers to satisfy the amusement-seeking public's appetite for novelties. The need for strikingly new features offered a challenge to American inventive genius. It was soon realized that the most popular device was that which gave the patron the greatest thrill along with the utmost assurance of safety. The great American public, it was observed, generally made its mind up promptly whether to accept or reject a newly exploited device, and it became almost axiomatic that a new attraction achieving popularity in this country was virtually certain to be received with equal favor abroad.

The Patent Office, in Washington, has granted more than one hundred thousand patents covering recreational devices. * Some of these have made fortunes for their inventors

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* The popular amusement devices described in the following pages have been selected either because of their originality or their historical interest. There are many related devices of minor interest which are familiar to amusement-seekers, but they are not of sufficient importance to be included here.

and promoters, although the great majority have proved to be impractical or utterly worthless. The amusement business seems to attract inventors from all walks of life, many without the remotest connection with the industry they seek to benefit or exploit. It has been said that the outdoor amusement field promises a fortune to anyone ingenious enough to devise a new way in which humanity may be bewildered, mystified, or led to deceive itself. But the way is not easy and fortunes made are few. It is both difficult and costly to invent a new device that will bring some degree of success to the inventor. First, an inventor must be aware of the basic requirements involved; such as simplicity, safety to patrons, power to thrill, carrying capacity, building codes, and a reasonable approximation of initial costs. In addition, he should have a knowledge of "the state of the art," which means some information about previous efforts in the field by others. This often involves costly research by the would-be inventor.

Natural forces such as gravity, centrifugal force, and momentum play an important part in devising a thriller. Engineers have made many experiments to determine the form of track best able to accelerate the speed of roller-coaster cars. The design of the Loop-the-Loop was carefully studied to obtain maximum safety for the riders.

The constant demand for new amusement devices has led to the establishment of several large manufacturing plants entirely devoted to developing and producing amusement-park equipment. The largest and foremost producers of modern recreational devices today are in the United States.

CHAPTER 6

The Carrousel

The most widely known outdoor amusement device is the carrousel. It has endured for centuries, in one form or another. A writer in *World Fair* has expressed it this way: "Everybody knows the carrousel or merry-go-round; the music starts up and prancing horses, girded with gay trappings, with ears pricked up and their feet ready to fly, begin gliding by. Bells jingle, children gasp with delight, and even grown-ups feel something medieval and mysterious. Note the defiant, haughty glances thrown at you by the young riders as they pass in the course of their revolution. They are in a dream; for a whole minute they imagine themselves in a higher sphere, riding in couples through the woods, and feel like accomplished riders. Watch them there and you can understand the philosophy of the merry-go-round."

The carrousel is not a modern invention. The word *carrousel* once signified something very different from the merry-go-round it designates today. Its origin dates back to the ancient royal tournaments of medieval times.

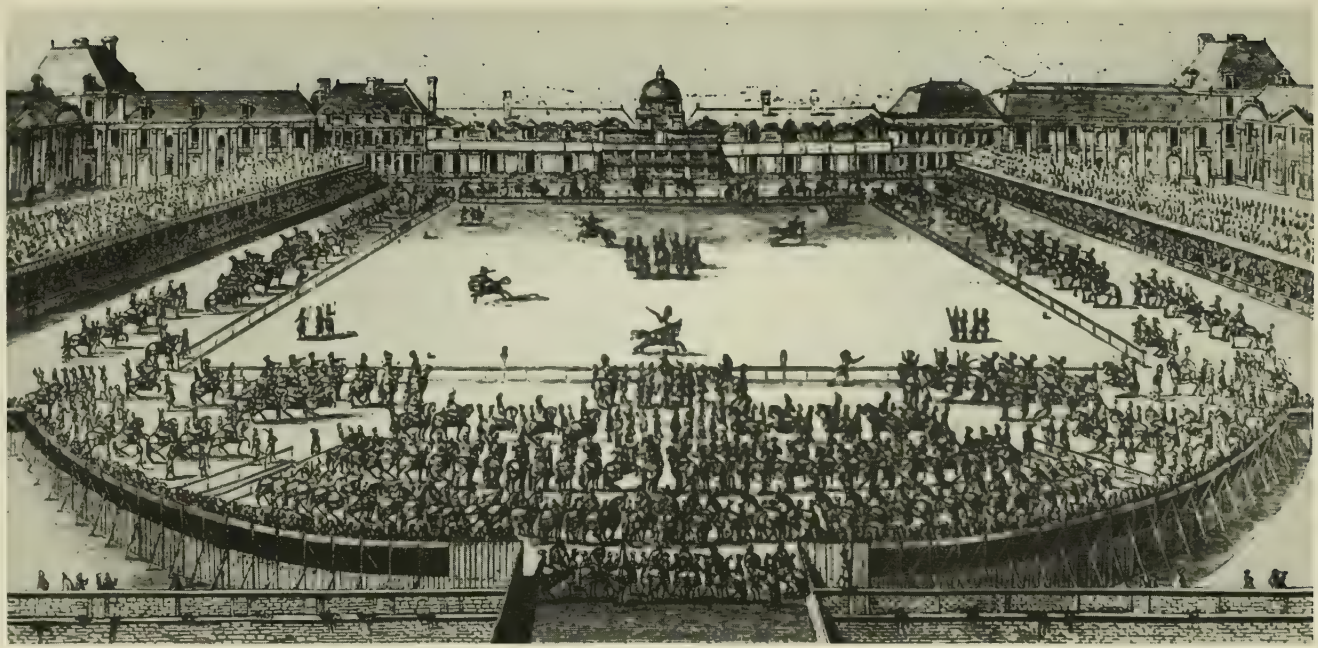
In the twelfth century, Arab horsemen used to play a game in which they threw a fragile clay ball, filled with scented water, from one to another. Spaniards and Italians who saw the game during the Crusades adopted it. They called it *carrosello,* the literal meaning of which is "little war." The game became popular at tournaments, and little by little began to change in character. It was introduced into France at the beginning of the seventeenth century and was highly regarded by French royalty. They called it carrousel, and developed it into a lavish display of horsemanship. Noblemen of high rank displayed great skill in the game, mounted on horses with elaborate, medieval trappings. These tournaments, in their refinement, were in sharp contrast to the bloody jousting matches indulged in by royalty in previous centuries.

The first carrousel on record in which royalty participated was held in Paris, in 1605, at the Hotel Vendôme, and the next, in 1608, in the Louvre garden. The army soon joined the nobility in its fondness for this pastime. In 1612, on the occasion of a royal wedding, a three-day carrousel was held in the Place Royale. This entertainment cost 550,000 crowns, but it did not compare in splendor to the carrousel held in 1662, in the square between the Louvre and the Tuileries, which ever since has been called the Place du Carrousel. The Arc du Carrousel in that square is an attraction for tourists to this day.

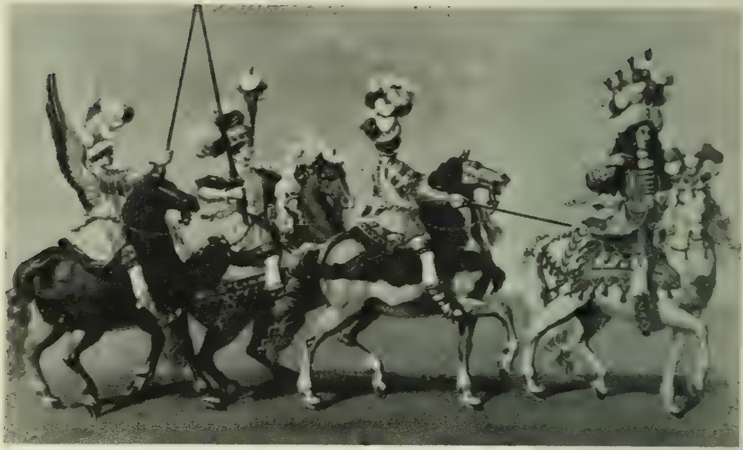
This royal diversion was not confined to France. Elaborate carrousels were ordered held by Frederick II, at Berlin, in 1750, and the Countess Orlow sponsored one in Moscow as late as 1811.

Toward the end of the reign of Louis XIV, this brilliant sport, which for generations had delighted European nobility, especially in France, began to go out of fashion, and it soon became a rarely seen spectacle. However, it still lingered on among officers of French cavalry regiments at public celebrations in small towns. And it had some curious survivals in the United States, in an adapted form.

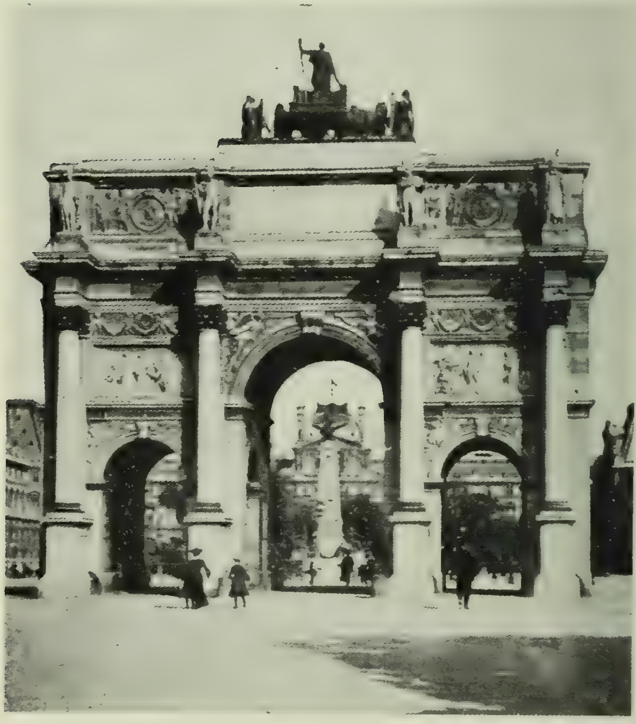
Royal carrousels were held in arenas and were witnessed



French Carrousel—1662



Carrousel Horses with Medieval Trappings



Arc du Carrousel—Paris

by privileged spectators who sat in the surrounding amphitheaters. The participating courtiers strove to outshine each other in the luxury of their apparel, as did the spectators. Although the games were usually based on allegorical subjects, or taken from mythology or history, their effect was that of a masque, a spectacle, and a hippodrome combined. An important feature of the carrousels was the ring-spearing tournament. Its contemporary parallel is to be found in the added amusement attraction for merry-go-round riders of "catching brass rings," a phrase that has been incorporated into the wording of a popular song. But before this, ring-spearing passed through several modifications, some of which were exploited in this country.

The sport of ring-spearing originally developed from the joust and the combats engaged in by royalty in ancient times, and can be traced back to the thirteenth century. In England, it was known as "tilting at the quintain," or "running at the ring," and it was taken from the Italian *correre alla quintana.* In France, ring-riding became an important feature of the carrousel tournaments.

The game consisted of spearing a ring suspended from a post, with a lance, by a mounted rider traveling at the full speed of his horse. Handsome prizes were awarded the winners. The feat required excellent horsemanship and rare skill. While they achieved their greatest popularity in Europe, tilting matches were also a common game in Oriental countries, and in the eighteenth century became a favorite diversion in Japan.

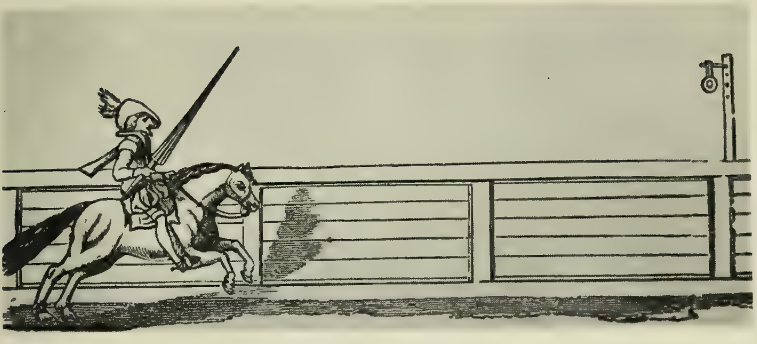
In the United States, in the South, English settlers introduced ring-spearing as a plantation sport in ante-bellum days. The contests became a feature of the annual azalea festivals in Charleston, South Carolina, and the rules under which they were conducted bore a close resemblance to those in vogue during the days of knighthood.

A revival of the sport occurred in Philadelphia, in 1876, in connection with the Centennial Exposition, which was held in that city. The track for the grand tournament was located on Georges Hill. It was about a mile long and one hundred feet wide. Wickets were set up at intervals along the track and rings were suspended from the crossbeams. The rings were hung so that the eye would be open to the spear of the charging horseman. Each rider was timed from his take-off, at the starting point, and sought to lance as many rings as possible, going at full speed. Each contestant, designated as a "knight," was given three tries for the nine suspended rings. The winner had the privilege of choosing from the ladies present she who would later on in the festival be crowned the Queen of Love and Beauty.

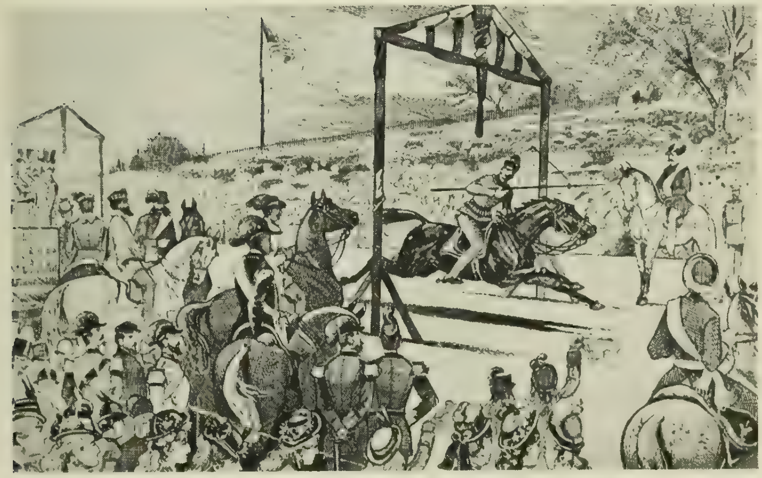
Out of the diversified entertainment which was grouped together under the name *carrousel* for several centuries, the merry-go-round as we know it today emerged in a peculiar way. For the purpose of training young princes for the tournaments, elaborate contrivances were installed in royal courts. They consisted of an ornate post with wooden arms extended outward, like wheel spokes, from the outer end of which wooden horses were suspended. These the young princes mounted, and, as the device was rotated by two servants pushing on the wooden arms, they attempted to spear small rings, held an arm's length away from them, with miniature tilting lances.

Shortly thereafter, the crude, hand-operated device began to be popular as folk entertainment, taking its name from the royal tournaments. During the centuries it has persistently retained the garishness of the royal fetes in its glittering decoration, music, ring-spearing, and the charging appearance of its wooden horses. From its very beginning, it was dear to the hearts of children; fondness for it seems to be born with them.

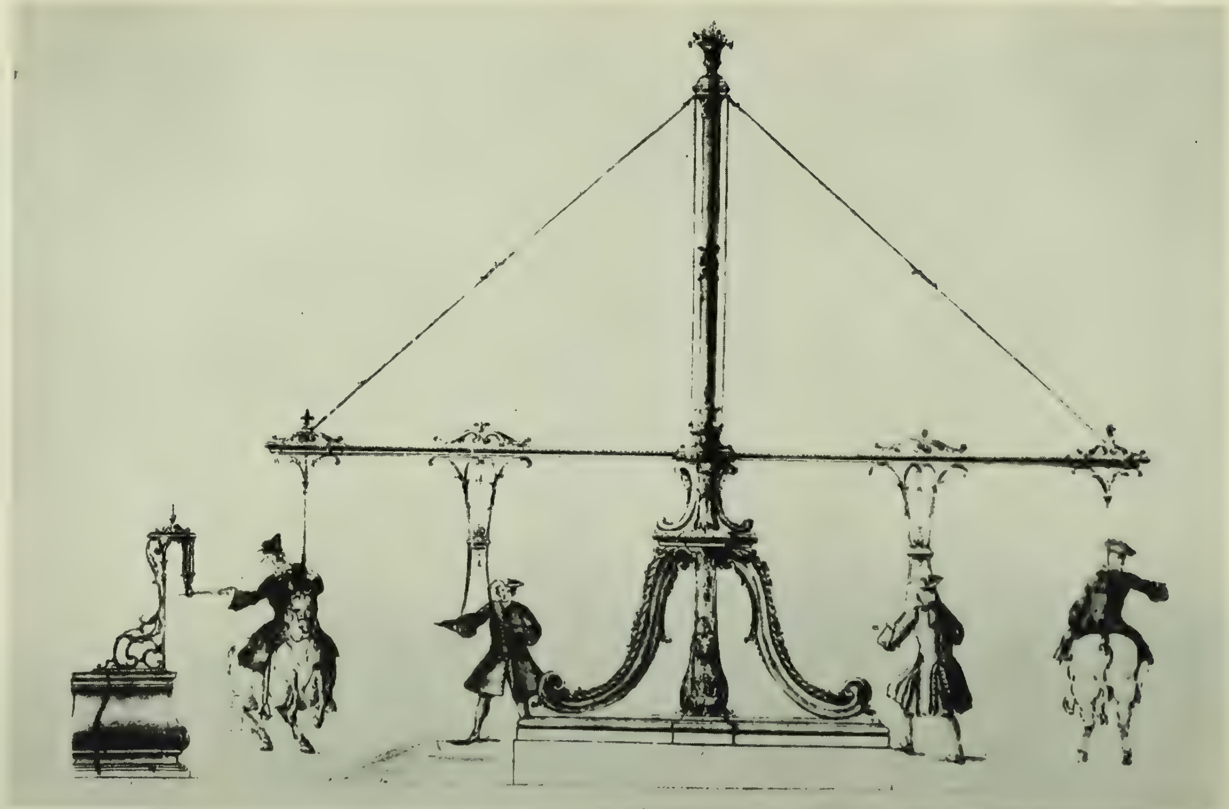
Inventors paid scant attention to the improvement of the carrousel. For a century or more it continued to be a clumsy, home-built product. About two hundred years ago, the first carrousel factory was established in Moblitz, Saxe-Weimar, by a German toymaker. It was still in existence a few years ago. Probably about the time that the commercial manufacture of



Tilting at the Ring—Fourteenth Century



Tilting at the Ring—Philadelphia Centennial Exposition, 1876



Training Machines for Young Princes—1770 carrousels began, the first improvement was made, a cranking mechanism which eliminated pushing on the arms. This was a small step, but it lightened the burden of the men who operated the device. Later, horsepower was introduced. A horse or mule was hitched to the inner edge of the revolving platform, and, his harness decorated with spangles and bells, trotted around in a circle, keeping the carrousel in motion. The jingle of the bells delighted the children and bells thus became standard equipment for carrousel horses.

Even the introduction of steam and electric power hasn't wholly eliminated the carrousel horse in some European countries. In picturesque harness, they may be seen in remote country districts. The only touch of modernity concerns their working hours. They are protected in their task by law and carrousel operators must replace them with fresh horses every hour.

Operating carrousels by horsepower was the practice for many years in the United States. As recently as 1912, the carrousel in Central Park, New York City, was operated by a mule. The animal was hitched to the lower part of the carrousel's center pole, which descended below the floor into the deep basement of the building. Directions for starting and stopping were given by tapping on the floor above with a cane; two taps and the mule would start; one tap and he would stop. Children liked to lie flat on the walk outside the small basement windows and peek in at the mule, slowly trudging around in circles.

This country has made substantial contributions to the development of the carrousel. The first American patent to improve the Flying Horses, as they were once known, was granted to Eliphalet S. Scripture, of Green Point, New York, in 1850. In this patent, the forepart of the horse was to be raised and lowered by cams and a chain, while the hindpart remained secured to a pivot. The motion thus induced would resemble a galloping horse. Credit must also be given to this inventor as the first to evolve an overhead system, which in modified form is now in general use.

Three years before Scripture's patent, in 1847, Michael Dentzel of Creuznach, Germany, brought his primitive carrousel to this country in a sailing vessel. He was a wheelwright by trade and, in constructing his first carrousel, in 1837, had used a large wagon wheel which turned on an upright post. After his arrival, he settled in Philadelphia, operating his carrousel in various parts of Pennsylvania with great success. The son of this pioneer, G. A. Dentzel, following his father's vocation, established the first carrousel factory in this country, in Germantown, Philadelphia, in 1867. The sign in front of this shop reads: G. A. Dentzel, Builder of Steam and Horse Power Carrousels. From crude beginnings, the Dentzel carrousel was soon improved into a well-constructed and popular amusement device. The Dentzel device was the first in this country to be operated by steam power.

Dentzel placed one of his first improved models in operation on Smith's Island, at that time a popular pleasure resort in the Delaware River, off Market Street, Philadelphia. Another was set up at Cabin John's Bridge, on the Potomac River. Both locations proved exceedingly profitable. From that time on, the Dentzel machines became standard attractions in amusement centers and public parks throughout the country. When, in his later years, Dentzel was urged by friends to retire, because, they thought, enough carrousels had been produced, he replied that "as long as children are born, carrousels will be made."

Dentzel died in Philadelphia, in 1909. The business was carried on by his son, William H. Dentzel, until the latter's death, in 1928, when it was finally dissolved. The passing of the Dentzel firm elicited numerous newspaper articles. The *Philadelphia Ledger,* of March 20, 1928, commented as follows: ". . . is the author, painter, sculptor or orator who has given pleasure to millions of adult minds any more entitled to homage than he who has brought delight to millions of children's minds? Does it matter, after all, that the medium employed was nothing more than the ring of painted hobbyhorses, to which a lot of laughing, shouting youngsters cling madly as they swing around a pole in dizzy circles? 'Merry-go-round King' is no slight sobriquet to be remembered by. It may not entitle its owner to a niche in the Hall of Fame, but at least ought to insure for him a saintly candle before that mystic shrine that dwells forever in the hearts of the children."

Another pioneer in the development of the carrousel in America was Charles I. D. Looff, who started his career in New York and later became active in the amusement business in the Western states. Charles Looff was born in 1852, in Schleswig-Holstein, then a Danish province. At the age of eighteen, he came to this country, arriving in New York in 1870. He secured employment as a woodcarver in a furniture factory, having become proficient in that trade before coming to America. At the end of his day's work in the factory, he took home his carving tools and in the evening and early morning practiced carving wooden horses. Working at home, he built his first carrousel, which he placed on the grounds of Balmer's Pavilion at Coney Island, in 1875. Several years later he constructed a larger one for Charles L. Feltman, whose establishment became an outstanding Coney Island resort.

Greatly encouraged by his success, young Looff set up a small shop in Brooklyn. After completing his third carrousel, he secured a location for it on Young's Pier, Atlantic City, New Jersey, where it drew large patronage. Young, the owner of the pier, became much interested in the carrousel and made a liberal offer to buy it. Looff hesitated. His young wife, in tears, pleaded with him not to sell. Young left the couple but returned in an hour with the full amount in cash, and Looff accepted. From that time on he was busy filling orders for his carrousels, which eventually became noted for their finely carved figures, unequaled by his competitors, despite the simple frame on which they were mounted.

The Looff factory was razed by the city to make way for a new park, and Looff moved to Riverside Park, Rhode Island. In 1912, he crossed the continent to Long Beach, California, where he reestablished his factory. Along with manufacturing, he also became active in establishing new amusement centers. He died in 1918, in Long Beach.

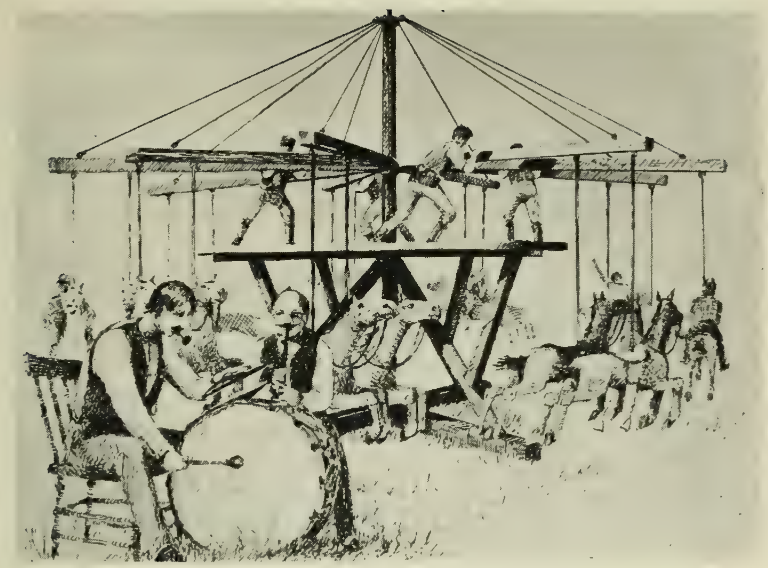
A pioneer carrousel manufacturer about whom much has been written, although he accomplished little, was Fritz Landow, who came to this country, in 1879, from Austria, and settled on a farm outside the town of Clarence, New York. He had come to America with the intention of going into the carrousel-making business, in which he had been employed in his native land. During the winter months, when farm work was slack, he chopped down trees and turned the logs into lumber for framework, and prevailed upon the local blacksmith, who agreed reluctantly, to fashion the required metal parts. His farmer neighbors were strongly suspicious of what they considered his unholy contraption, and denounced it as a work of the Devil.

The Landow carrousel measured twenty-five feet in diameter. Twelve arms radiated from its center pole, and from each arm a crude wooden horse was suspended by a rod. The horses were chained together to prevent them from swinging outward when in motion. The motive power consisted of two men who, mounted on a raised stationary platform, pushed the revolving frame. A drummer and a clarinet player constituted the musical entertainment.

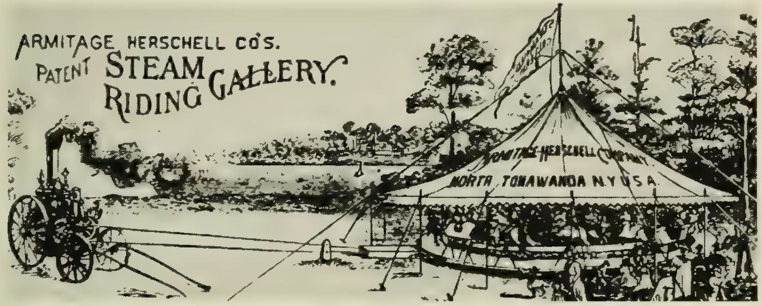
Landow completed his machine in the spring of 1880. The Clarence town council gave him permission to play the town as his opening stand, and to the surprise of his critics he did a brisk business. He then went on tour with his machine and played one- and two-week stands, sometimes following a circus, from place to place.

Landow was a jovial man and enjoyed good company, but insobriety led him into debt and his carrousel was taken from him as security for a loan. It was stored in a barn and never used again.

A new type of carrousel was developed in 1879 by the Armitage-Herschell Company, of North Tonawanda, New York. The leading spirit of this firm was Allen Herschell,



Early Carrousel Operated by Manpower


ARMITAGE HERSCHELL CO'S.
PATENT STEAM RIDING GALLERY.
ARMITAGE HERSCHELL COMPANY
NORTH TONAWANDA N.Y. U.S.A.

Steam-operated American Carrousel—1880

who had come to America in 1870 from Arlbreth, Forfarshire, Scotland, and settled in Buffalo, New York. There he joined James Armitage in organizing the Tonawanda Engine and Machine Company, in North Tonawanda. Calamity struck them at the outset; their factory was destroyed by fire, rebuilt, and again burned down the same year. They then decided to try a new line of business and reorganized to manufacture an improved type of merry-go-round, a modernization of the old English roundabouts of the eighteenth century.

Friends of the two men were skeptical about marketing such devices and advised against it, but Herschell was convinced there was a great future for amusement equipment, and a new factory was built. The design of their merry-go-round ignored the usual central post which had always been basic in carrousel construction; instead it employed a circular track, laid on the ground, on which the device would revolve. It was rotated by a slender cable which fitted into the rim of the revolving platform and led to a small steam engine, standing a few feet away. A rocking motion was imparted to the horses by the track wheels. A small organ, placed on the revolving platform and belted to a track wheel, played music when the device was in motion. To the organ was attached a life-sized dummy which turned the crank. A large canvas top, supported by poles and secured by guy ropes attached to stakes driven into the ground, covered the entire machine.

After many obstacles had been overcome, the first Armitage-Herschell merry-go-round was set up in the public square and operated with great success, exceeding all expectations of the builders. Due to its simple construction and low price, it attracted buyers immediately, and orders began to pour in. It was especially popular in the Southern states. Many operators traveled from place to place with the devices, even operating profitably in small villages. In the South, the merry-go-rounds were called by various names, such as Flying Horses, Riding Galleries, the Flying Dutchman, Flying Jenny, and the Hobby Horses. The operators simply named the device the Tonawanda machine. North Tonawanda soon became known as the leading merry-go-round production center, as the fame of the device grew. Many were exported to South America and other countries, and descriptive catalogues in several languages were issued by the manufacturers.

Merry-go-rounds seem to have exerted an unusual fascination upon the minds of many men about that time as a way to make money easily. Few of these men had had any previous experience in the amusement business and inevitably came to grief. In more than one instance, a farmer became so intensely interested that he mortgaged his farm, his cows, and other possessions to make a down payment on a merry-go-round. Before long however, many gave up and went back to farming. On the other hand, a few more astute operators found in the merry-go-round their first stepping stone to becoming large-scale showmen.

In the course of time, other and more thrilling amusement devices were introduced, and interest in the Tonawanda-type merry-go-round waned. In 1902, the Armitage-Herschell Company went out of business, but soon afterward Herschell, together with Albert Spillman, formed the Herschell-Spillman Company, and again began to manufacture merry-go-rounds. In 1911, Herschell retired from that company to organize the Allen Herschell Company for the manufacture of amusement equipment of several kinds. In the meantime, the former Herschell-Spillman Company became the Spillman Engineering Company, and in 1946 it was absorbed by the Allen Herschell Company. Allen Herschell, however, had died in 1927.

The original Tonawanda merry-go-round is now rarely seen. What became of the very large number that were manufactured is a mystery. Sometimes they are found stored away in old barns in remote country districts where they have lain forgotten for years.

A Tonawanda merry-go-round, equipped with a small organ and operated by a steam engine, is installed in the magnificent Ford Historical Museum, in Dearborn, Michigan, to illustrate a phase of American amusement history.

An important improvement of the carrousel took place early in the nineteen-hundreds with the introduction of overhead transmission, invented by F. H. Savage and Company, of Kings Lynn, England. This system employs a series of crankshafts mounted in the upper part of the revolving frame and geared to rotate when the machine is in motion. From these crankshafts the horses are suspended in such a way that a smooth galloping motion is imparted to them. This system was further improved upon in 1907 by W. F. Mangels, of Coney Island, and is now in general use.

As improvement followed improvement the carrousel gradually became a product of highly skilled engineering techniques. Its mechanical construction, its elaborately carved figures, its brilliant illumination, and its large carrying capacity required deft and careful workmanship. As a consequence, the price of carrousels increased enormously and their production greatly declined. But regardless of price, no amusement resort, county fair or park of any magnitude ever lacks the always popular merry-go-round.

From its earliest inception, figures of horses were used on carrousels. At the close of the last century, reproductions of other animals began to appear: lions, tigers, deer, elephants, goats, zebras, ostriches, pigs, storks, frogs, roosters, cats, dogs and bears. In addition, mythical figures like huge sea horses and ferocious-appearing dragons were installed.

At first operators of carrousels thought the innovation of unusual figures would stimulate business. However, they were soon disillusioned. The figures were not popular with the public. Young girls refused to ride on roosters, pigs, frogs or storks, and children were afraid to go near them. They wanted a "horsy" to ride on. Within a few years these figures disappeared from the carrousel. With the development of the galloping motion, the horse again became supreme.

CHAPTER 7

Merry-Go-Round Music

Back in the days when young princes were trained for the carrousel on toy merry-go-rounds, which were revolved by servants pushing on the arms of the device, a lone drummer beat out the rhythm, slowing down or speeding up the pace of the man as the occasion required. Thus the beating of a drum was the beginning of what later became the inevitable musical accompaniment of the merry-go-round.

The next development in this direction was, apparently, the introduction of cymbals attached to the drum; and some time after that a flute player was added. In the course of time, the two-man orchestra was augmented until it became a small band.

Concurrently with this kind of musical accompaniment, the primitive cylinder organ was introduced. This wheezy old instrument played the same short tunes over and over again and became the butt of jokes by both patrons and the public in general. Inventive genius was soon able to improve on the mechanism so that the instrumentation was expanded to thirty-two key levers, and later to eighty or more, thus making the military-band organ possible. While the harmony and volume was increased, the brevity of the tunes remained, however.

Attempts to peg a cylinder in spiral form to lengthen the duration of the musical selections proved unsatisfactory and a better method was sought. Finally, a perforated cardboard device was successfully tried out which, eventually, led to the invention of the paper music-roll.

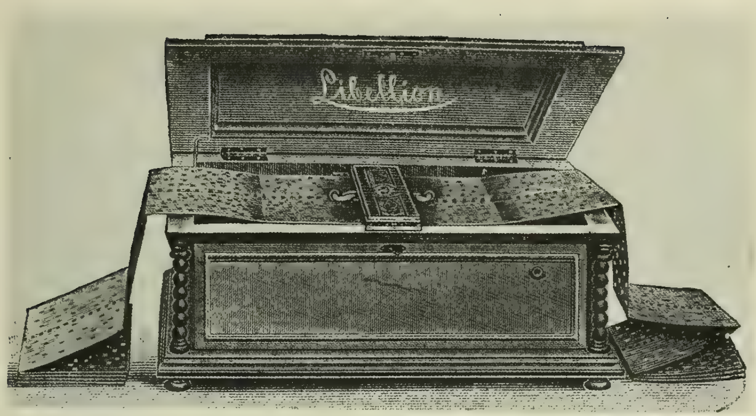
Experiments with pegs as a mechanical means of playing musical instruments were made in England by Justinian Morse as early as 1731. One of his devices employed a half-inch board, studded with pegs which were connected with the keys of an organ. Morse's invention proved too faulty for practical use.

Meanwhile, in Paris, Vaucauson, the famous automaton maker, had been experimenting with machinery for the weaving of flowered silk. In 1750, he at last constructed a pierced cylinder which showed promise. When revolved, the cylinder regulated the movement of the needles, and produced the design indicated by the holes in the cylinder.

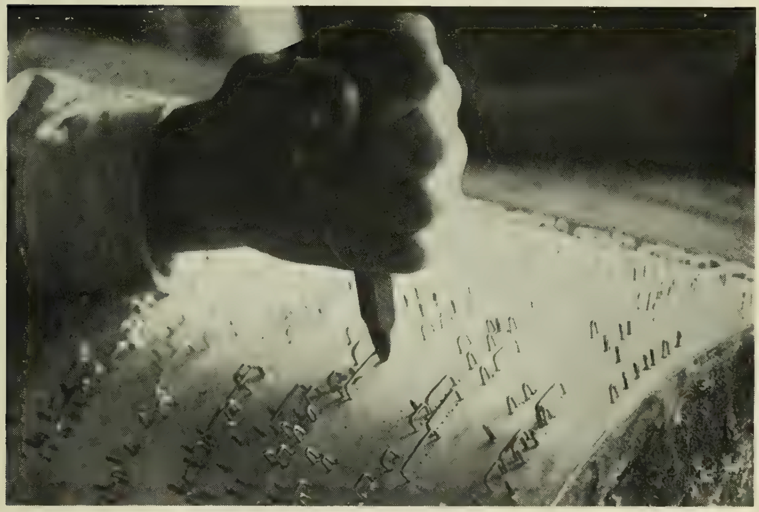
For a number of years no further advance was made. Then, in 1802, Jacquard, the inventor of the silk loom, took Vaucauson's idea and added jointed pieces of cardboard which were folded in book form and perforated with holes which traced the pattern to be woven. Jacquard's perforated cardboard loom is the basic principle from which the present-day music-roll was developed.

In 1842, Saytree, of France, patented a mechanical musical instrument which utilized the perforated cardboard system. The American inventor, John McTammany, in 1868, made another advance in the construction of a mechanism for playing an organ automatically, by winding and rewinding on rolls long narrow sheets of perforated paper. This system was further improved upon by others.

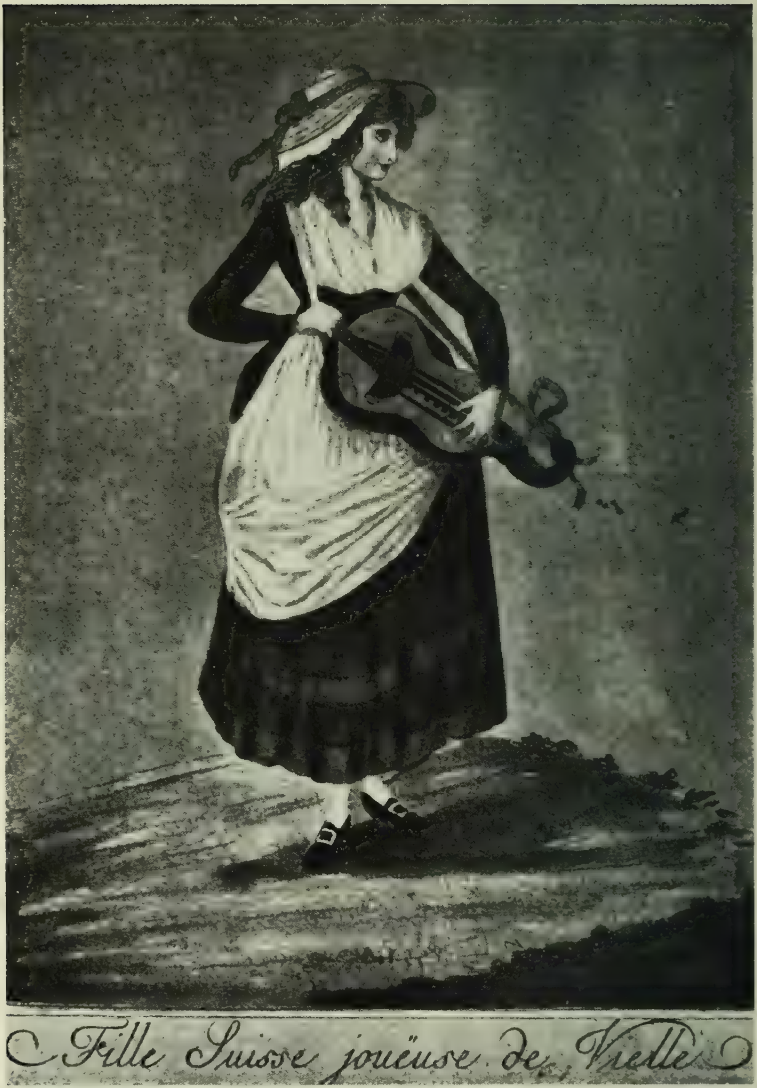
Throughout the nineteenth century, the manufacture of elaborate mechanical organs and orchestrations was a thriving



Musical Instrument Played by a Moving Perforated Cardboard Strip



Pegged Organ Cylinder


Fille Suisse jouëuse de Vielle

Original Hurdy-Gurdy—Eighteenth Century

business. In Europe, especially, the organ-building industry remained in the same families for generation after generation, and they became highly skilled in the art. The towns of Mirecourt and Nancy, in France, were the birthplaces of the small cylinder organs used by itinerant players. Soon small factories sprang up in Italy and Germany. In 1805, Ignaz Bruder established an organ shop in Waldkirch which is still in operation.

In the United States, the Armitage-Herschell Company, in its day the largest manufacturer of merry-go-rounds, was one of the first to establish an organ factory. The first organs they installed on their merry-go-rounds were imported from Germany, but deliveries were slow and import duties high. A German expert, Eugene de Kleist, was induced to take over supervision of the new plant. The venture soon became profitable, but production was confined to small organs and extra pegged cylinders which provided new tunes.

The mechanical organ reached the height of its popularity back in the eighteen-nineties. A number of new manufacturing firms were established toward the end of the century. Among them was the Berni Organ Company, the head of which was Louis Berni, who subsequently became known as the "Organ King." Berni's father had rented organs to itinerant players in Paris. When he retired from business, he turned it over to his eldest son to continue. Louis, the youngest son, thereupon decided to come to New York and set up an organ-renting business of his own. Upon arrival, he found that the Mollinaris, of Park Row, had a virtual monopoly on the renting business, whereupon Louis moved into a barn on Fifty-sixth Street in which he manufactured organs played by perforated cardboard rolls, or "paper organs," as they were then called. His business flourished from the start and very soon he opened a large showroom in the heart of New York City.

Louis Berni was a colorful character. He boasted that he could sell an organ to any prospect, whatever his sales resistance, and asserted that anyone in the amusement field who didn't own a Berni organ would soon find his business going on the rocks. He made annual trips to Europe where he bought up old instruments and shipped them back to New York to be reconditioned and sold. He spoke four languages fluently and could drive a hard bargain in all of them. Nor was his jovial manner easy to resist.

Through Berni, hundreds of old mechanical organs found their way to this country, and among the famous makers represented in his collection were Gavioli, Limonari, Frati, Manenghi, Bruder, Ruth, and Bacigalupo. Each of these makers installed keyboards of his own devising in his organs, and no two were alike. Many difficulties developed in attempting to supply new music-rolls for all these different instruments, but Berni managed to surmount even that, although it meant that a very large number of master rolls had to be made.

After a long and successful career, Louis Berni, the "Organ King," retired to his beautiful villa in Bedonia, Italy, where he died in 1936.

The mechanical organ, because it provided musical entertainment in conjunction with amusement devices for centuries, has always had a great sentimental hold on the public. In recent years, however, it has been gradually discarded and replaced by the amplified music of phonograph or radio. Many showmen regret the passing of the popular mechanical organ, claiming that no amplifying device has yet been devised that will equal its drawing power. The tinkling music and whacking drums seemed to create an atmosphere in a show or on a carrousel which amplified music somehow fails to do. Nevertheless, the mechanical organ has obviously had its day. A few are still in operation but their existence has become more and more precarious as new music-rolls become more difficult to obtain.

The hurdy-gurdy is better known. In its most primitive state, it dates back to the ninth century. From a musical standpoint, it has always been held in rather low regard, but historically it is of considerable interest. For centuries it retained its original form and construction, a body somewhat resembling a guitar with four or more strings divided into hummers and players which were manipulated by the player by means of a short keyboard. The strings were sounded by a resined wheel, rotated by a small crank which extended from the lower end of the instrument. The player turned the crank with one hand while manipulating the keys with the other, supporting the instrument meanwhile by means of a strap over his shoulder. During the Middle Ages, it was known as an organistrum.

While Italians were most prominently identified with the hurdy-gurdy, during the eighteenth century it became so popular in France that it was considered the instrument *par excellence*. Noted instrument makers devoted their skill to the production of elaborate examples. Great artists gave *vielle* concerts, as the instrument was known in France, at royal courts and fashionable gathering places. With the change in customs that followed the French Revolution, however, interest in the *vielle* died out. In later years, in France, the hurdy-gurdy became a rare sight, and today it has become identified chiefly with gypsies and street beggars.

At first, in America, the repertories of the hurdy-gurdies were chiefly arias from Italian opera and Italian folksongs. Later, however, American popular songs were introduced, usually a year or two after their popularity had begun to wane. This, however, was partly due to the fact that only about once a year, usually in the winter months when street operation became impossible, were the old tunes replaced by new ones. But with the coming of spring the hand organs appeared again, the delight of city children who danced around them.

The name *hurdy-gurdy* was applied to a number of things: street musicians, water wheels, windlasses, merry-go-rounds, and even mining-town dance halls, but this misuse was chiefly confined to communities where the instrument was a virtual rarity.

The decline of this popular musical device in New York

City, and some other large communities, began in the nineteen-thirties when automobile traffic increased in density and made their operation hazardous. In New York City, Mayor Fiorello H. LaGuardia, himself of Italian extraction, signed their death warrant by means of a city ordinance barring them from the streets. And with the growth of radio, their value as musical entertainment was finally eliminated.

The piano organ is another instrument that enjoyed a long popularity. It originated in Italy about 1665 and soon was introduced throughout Europe by strolling players, traveling from town to town. No troupe of itinerants was ever without one or more players, who carried the instruments on their backs.

An Italian named Joseph Mollinari is generally credited with introducing the piano organ into the United States. At least, about 1862 he began to manufacture piano organs in a little shop on Elizabeth Street, in New York City. He is also believed to have been the innovator who mounted the instrument on a two-wheeled cart. Originally the piano organ, which was like a small, legless, upright piano, the keys of which were actuated by a pegged cylinder revolved by turning a crank, was carried by means of a shoulder strap.

Whether the strange noise-making device called the calliope, or steam organ, is an instrument of music or torture has been debated for years. It is best known as an adjunct to the circus or on the top deck of a river excursion steamer. The origin of this instrument is hidden in the dim past. Some writers credit its invention to the Greeks; others claim that a French showman by the name of F. L. Calliope was its originator, in 1848, giving his name to the invention.

The early calliope consisted of a steam boiler and a series of attuned steam whistles, which were operated by players through attached strings. After the calliope was introduced in this country, it was improved by Josiah C. Stoddard, of Worcester, Massachusetts, who, in 1855, added a keyboard by which the whistles could be played. Later, compressed air took the place of steam and the keyboard of some calliopes are actuated by perforated paper rolls. Phonograph records are now made of calliope music and are widely used in roller-skating rinks.

Calumniators of the steam calliope assert that it has distressingly penetrating qualities and an abundance of overtones. Its advocates contend that it is one instrument to which distance lends enchantment. The slow music of a steam calliope on the deck of a passing excursion steamer may be enjoyed by people on the riverbank a mile or more away, they point out, although a crowd of people watching a passing circus parade in a public street may be driven to distraction by the proximity of its raucous blare.

The Spalding and Rogers circus is said to have been the first to use a steam calliope in this country, in their grand tour, in 1855, and P. T. Barnum added one to his circus in 1872.

CHAPTER 8

The Roller Coaster

The origin of sliding down an incline for amusement is lost in antiquity. The use of sliding boards, improvised for the occasion, is a common practice and seems especially to be a deep-seated and irresistable urge in all children.

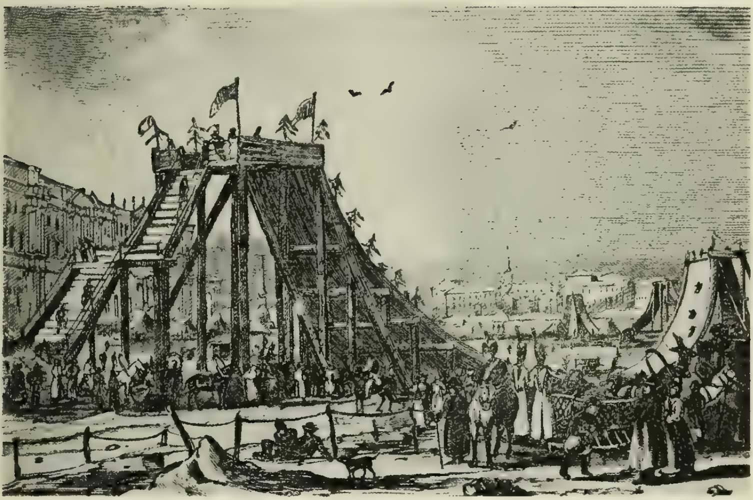
A brief article in *Science Service* describes a natural slide favored by the Wishram Indians, in the state of Washington. Near their ancestral village, Spearfish, is a large inclined rock of basalt. It is marked by two parallel grooves, worn smooth by many generations of young Wishrams, attesting their practice of the gentle art of sliding. This type of slide, however, is not exclusive with the Indians. In the southern part of Central Park in New York City is an outcropping of rock which shows similar deep furrows. They are attributed by geologists to the grind of historic rivers of ice, but mothers residing not too far away are of the opinion that the seats of their boys' trousers played a much more realistic part in polishing the grooves.

Coasting on sleds down snow-covered hillsides has been a winter sport for centuries. More than one hundred and seventy-five years ago British troops tried to prevent boys from coasting on Boston Common. The lads resented the interference and sent a youthful delegation to General Gage to demand restoration of their rights. The General not only granted their request but posted guards to prevent any encroachment upon their coasting ground. Until comparatively recent times, boys and girls continued to coast on Boston Common. When, in 1944, William F. Long, chairman of the Boston Department of Parks, announced that because of frequent accidents, coasting on the Common had to be discontinued, it was probably the oldest continually used sled run in the country.

The earliest records of slides constructed especially for public amusement are found in Russia, where sliding down an artificial snow hill was a favorite winter diversion of the people for centuries. These artificial ice slides were built not only in cities but also in villages and even in private gardens. They were particularly popular during carnival time.

The ice slides at St. Petersburg were constructed on a very large scale. They often consisted of inclines seventy feet high, sculptured out of hard-packed snow and supported by strong timber frames. Stairs led to the top, from which the incline slanted downward at an angle of forty to fifty degrees. At the base, the snow was smoothly leveled in a straight, twenty-foot-wide lane for a distance of about six hundred feet. The end of the straightaway was often the base of another hill, of the same size as the first, from which a parallel slide extended back to the starting point. Water spread on the inclines froze rapidly and created a slippery surface down which pleasure-seekers sped at lightning speed.

The procedure for the descent was elaborate. Each passenger had to be personally escorted by a guide, chosen from among a group at the top of the incline. The guide, after seating himself on a small wooden sled about two feet long, one foot wide, and a few inches high, would arrange the passenger securely in his lap, the passenger's legs close to-



Russian Ice Slides—1650

gether between his own. Then he would carefully move the sled, which was mounted on iron runners, toward the edge of the incline. When the way ahead was clear, he would propel the sled over the brink of the sharp drop, with a strong shove. The sled would tip downward and, at high velocity, the guide and his passenger would shoot down the incline, level off at the bottom, and skim over the straightaway to the steps of the farther hill. There they would get off the sled, carry it with them to the top, and repeat the performance, on a parallel track, back to the original starting point.

Night sliding was also a thrilling sport, the sled run being illuminated by colored lanterns strung along the incline and over the straightaway. On many occasions the slides formed the central attraction on festival days. Royalty was particularly fond of the sport, and in 1754 there is a record of an ice-slide carnival held under the sponsorship of the Empress Elizabeth.

Early in the nineteenth century, a roving Frenchman who had enjoyed this form of amusement in Russia, tried to introduce the sport into France, but the difference in climate between the two countries made it impossible to successfully operate an ice slide. Undaunted, however, the Frenchman adapted it as a summertime attraction for the new amusement parks that were flourishing at that period. He constructed an artificial hill of timber and, instead of sleds, devised a small carriage which rolled on a track laid on the incline. Thus began the now famous roller coaster.

The first roller coaster, or the Russian Mountains, as it was named, was built in 1804, in a public garden in the Ternes quarter of Paris. Its take-off was so high above the ground that many passengers were seized with fright as the car dipped sharply down the incline. As a result, several serious accidents occurred. Another drawback was the tedious climb back up the hill for a second descent. Not only was the climb tiring, but it also took some time, and prospective passengers had to wait long periods before their turn came around again.

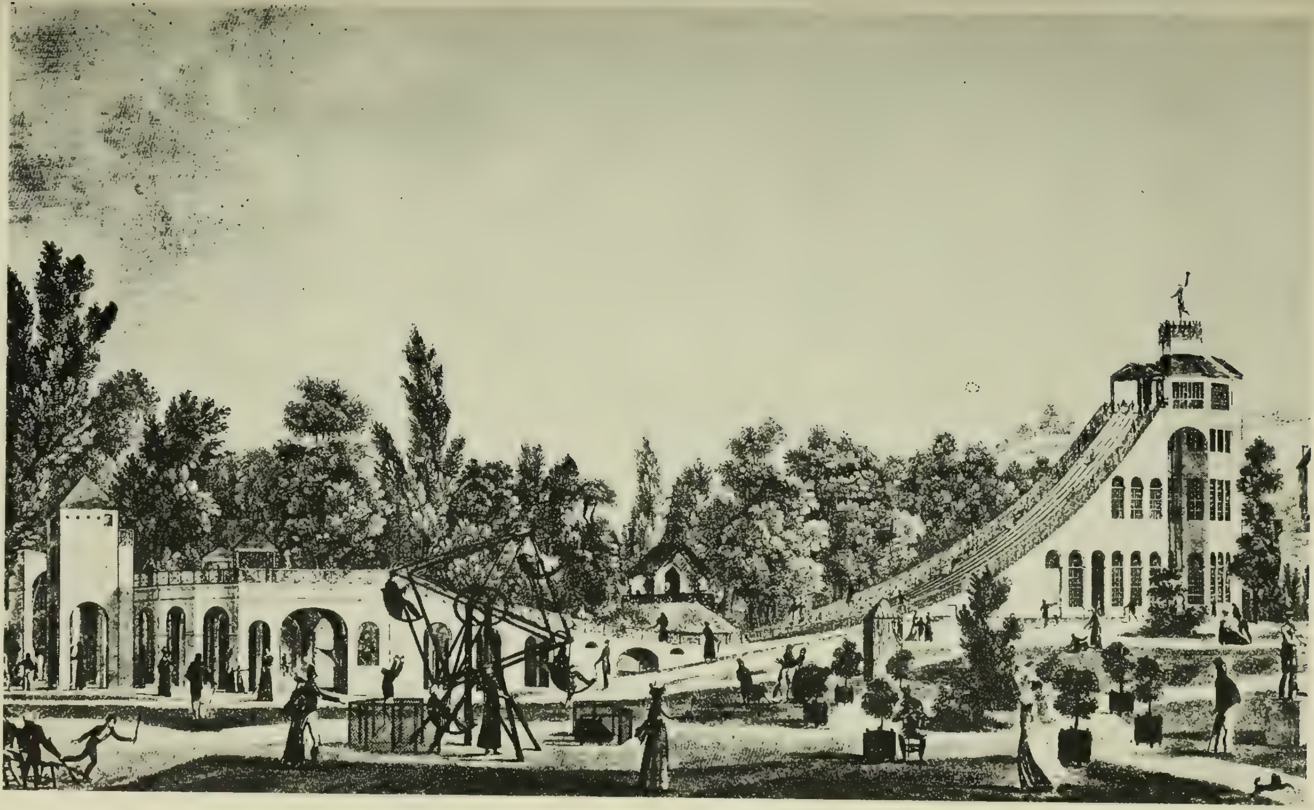
Not long after the opening of the first roller coaster, another was built in the suburbs of Paris which was a vast improvement over the first. It was named Belleville Mountains, and had an incline at both ends of the run which permitted riders to return to the starting point with less expenditure of time and effort. This coaster had no pavilion at the starting point and the framework was uncovered so that riders could see the ground flying by beneath their feet. Safety devices were unknown and it was not unusual for passengers to become dizzy, as the car gathered speed and fall out, as there was nothing to hold them in.

Finally, a new roller coaster was invented and installed in the great Parisian amusement park, the Jardin Beaujon, in 1817. It seemed designed to give satisfaction to all. Named the Promenades Aériennes, the new coaster was double and circular. Two cars started at the same time, one on each side. A carefully designed curve brought them nearly back to the starting point, and a slight effort from the men in charge was sufficient to bring them exactly into position for a new start. The patrons could buy a number of tickets at a time, and without leaving the car give one in at each end of the run. Thus they could enjoy their pleasure without having to get out and wait their turn again. Cars were built for one or two passengers. Royalty patronized the new coaster and it soon became the vogue of society.

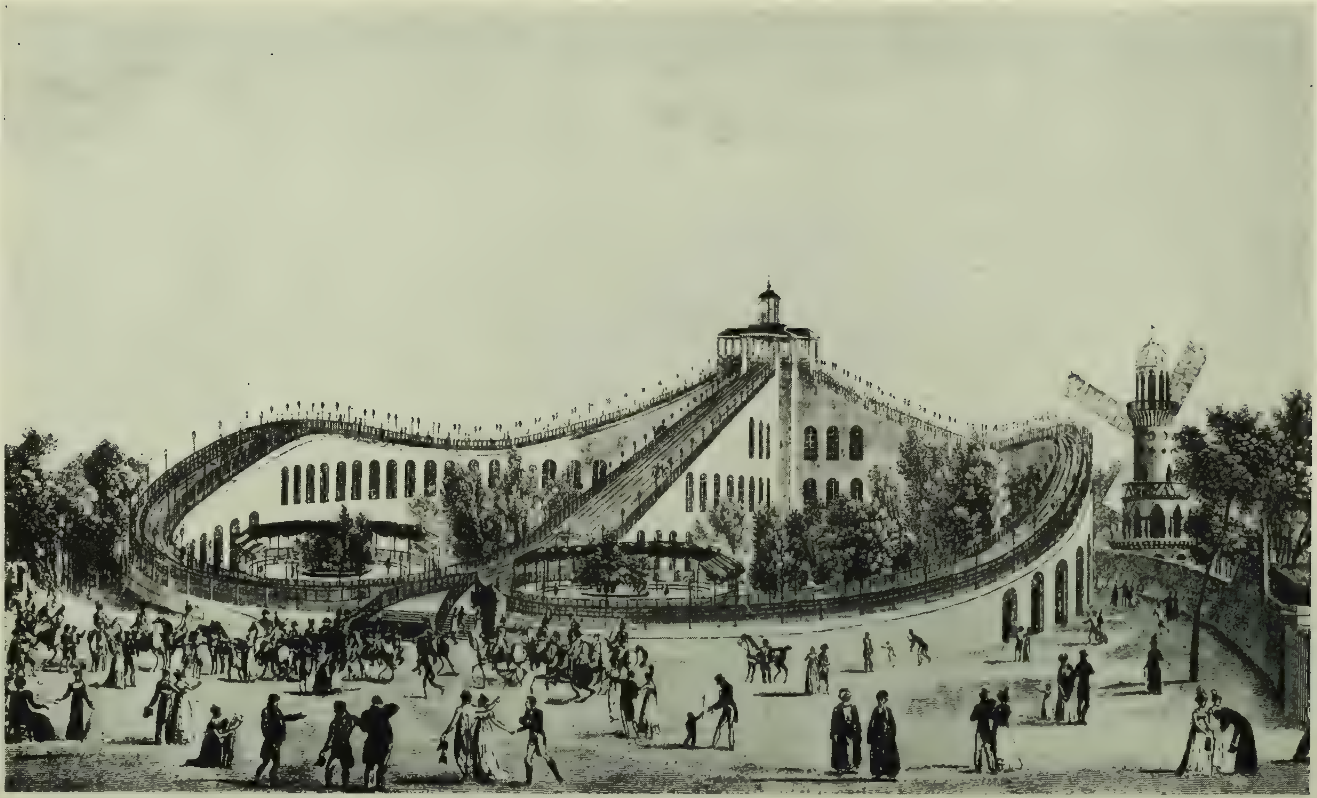
A description of the Promenades Aériennes, published in 1817, is as follows:

> The passengers take their places in four elegant cars and reach the height of eighty feet, running at a speed equal to that of a galloping horse. Then, with even greater speed, they come down, then up again, and so on, until they are back at the starting point, from which they can start on another journey, and travel at forty miles per hour. This is as fast as the fearless aeronaut travels through space in his balloon.

A detailed description of the coasters mentions a guide rail with a lining that prevented the cars from "jumping," if the



French Roller Coaster Known as Belleville Mountain—1817



French Racing Coaster at the Jardin Beaujon–1817 wheels should pass over an obstruction. It is especially emphasized that the slide must be kept free of foreign bodies, because "a passenger once lost a leg due to the presence on the track of a horse chestnut, which upset the car."

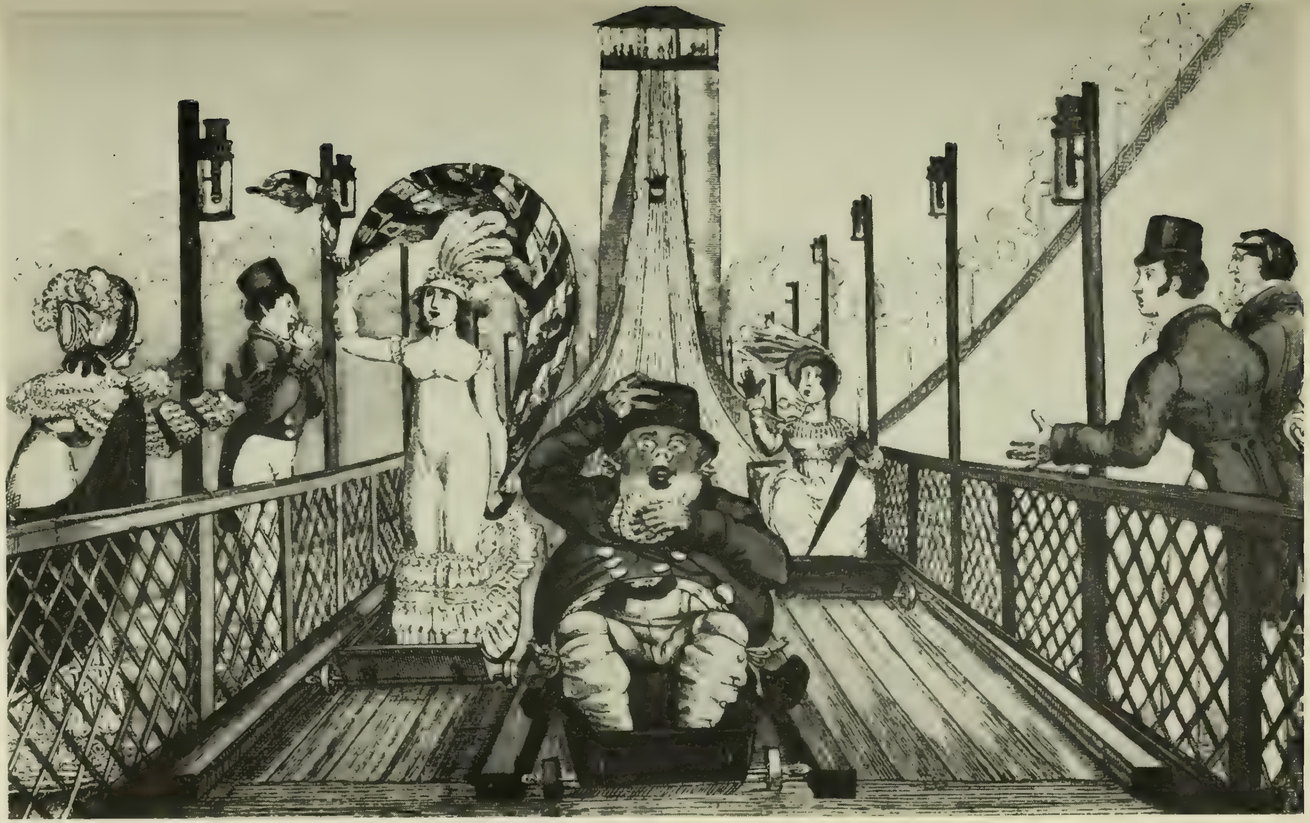
A number of patents for coaster amusement rides were issued in France during that period. One was taken out in the name of M. Audin for a rocking mechanism which he named the Promenade of Society. It was a kind of huge, rocking, lever which picked up carloads of passengers from the ground and lifted them to the starting point of the Russian Mountains. Another, granted a few days later to M. Brisson, was for a driving mechanism for cars, which were to be mounted on springs and powered by a motor similar to a windmill. The inventor named his machine the Rumb Course. M. Benoit proposed to add to the Swiss Mountain he had invented, in March, 1817, a ring-catching game. Passengers on this coaster rode on hobbyhorses or cars, and caught rings conveniently located along the track of the coaster, with spears. Several patents were issued for mechanisms that would hoist the coaster car from the lower to the higher level. On November 3, 1817, M. Chatelain received a patent for the use of counterweights, which helped bring the coaster car back to its starting point. Some time later, this system was used by early coaster inventors in the United States. Still another French inventor provided handrails at the sides of the course, by which passengers could pull themselves and the cars they occupied up the incline. A cable device for elevating coaster cars was patented in France by M. Lebonjer, in 1826, and sixty years later was more fully developed by the American roller-coaster inventor, L. A. Thompson, in his scenic railways.

After an era of great activity in coaster development in France, for which the French deserve much credit, they seem to have lost interest in this type of recreation and no further progress was made for half a century. French interest did not revive again until the American promotion of the roller coaster and scenic railways.

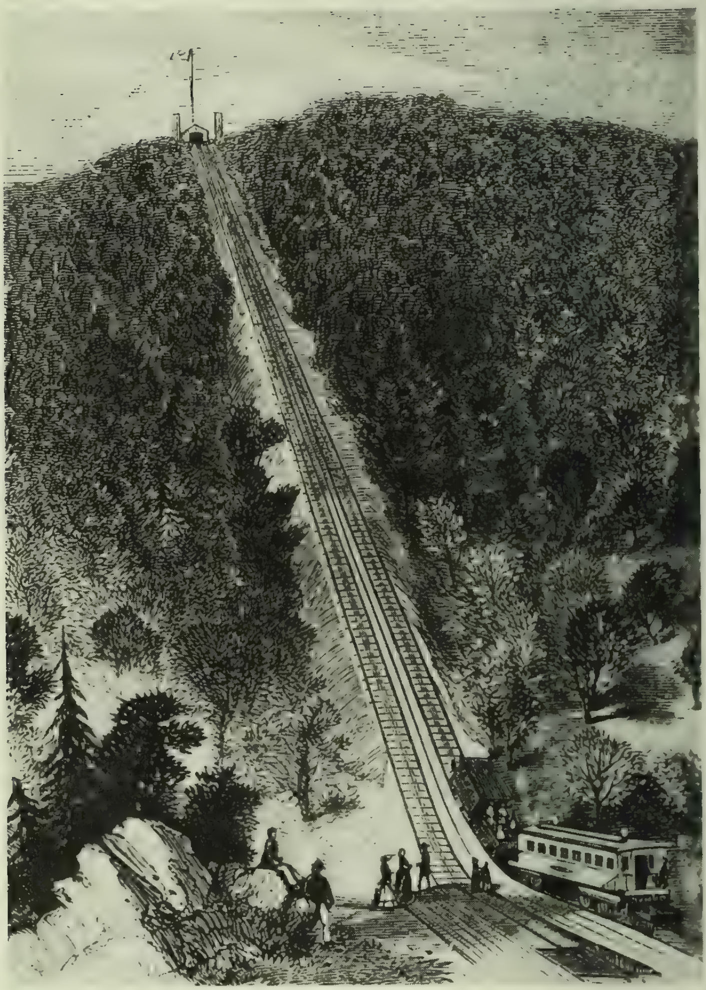
While the French were laying down the fundamentals of roller-coaster construction design and operating the device successfully, it is strange to note that no parallel interest was developed in the United States during that period. This can probably be attributed to the fact that the outdoor amusement industry itself had scarcely begun to develop in the early part of the last century. Once started, however, American inventors rapidly brought the roller coaster to a high state of efficiency, and its widespread introduction into amusement parks soon ranked it second only to the carrousel in popularity.

The era of gravity pleasure rides in this country began with the famous switchback railway at Mauch Chunk, Pennsylvania. This railway, in its earlier history, was an ingenious device by which coal was transported from the great open quarry at Summit Hill, at the top of Sharp Mountain, to the slack-water canal at Mauch Chunk. Originally, it was a single-track, narrow-gauge road, running from the mines to the canal, with grades so steep that the loaded cars were carried along the entire distance by their own momentum. A number of mules were carried on each train, in a car specially built for them. They "worked their passage" back by hauling the empty cars on the return trip to the mines. As the mines were extended over a wider area, this simple device became inadequate. To facilitate transportation and to eliminate the use of the mules, a return track was laid over Mount Pisgah and Mount Jefferson to the mines, in 1844, and the road became widely known as the "switchback."

In 1870, this road was abandoned as a means for transporting coal, and enterprising citizens hit upon the happy thought of utilizing it as a pleasure road. Very soon it became the main attraction of the famous "Switzerland of America." It traversed the magnificent scenic region of Mount Pisgah, White Bear Mountain, and the Lehigh Valley, and became a favorite excursion trip for sightseers and honeymooners. For many years the railroads ran special trains to Mauch Chunk. Arriving at the switchback depot, the passengers transferred to



French Coaster Cars at Belleville—1817



Mauch Chunk Switchback Railway–1870

comfortable summer cars, which ran by gravity to the foot of Mount Pisgah. There they were hoisted up the inclined track to an elevation of fifteen hundred feet above sea level, by an engine at the top of the mountain that wound two heavy steel cables around a drum twenty-eight feet in diameter. Safety was assured by an automatic device which dropped into a ratchet rail laid between the tracks, and prevented the cars from slipping backward.

From the top of the mountain, the cars began their descent into the valley by gravity. The track sloped downward at a ratio of sixty feet to the mile, and the light cars accumulated an exhilarating speed. A breath-taking panorama of tree-clad hills and sky was exhibited on all sides as the cars sped down the mountainside, to halt at the foot of Mount Jefferson. From there they ascended another inclined plane which lifted them four hundred and sixty-two vertical feet over a track distance of two thousand and seventy feet, and a further run of one mile brought them into the town of Summit Hill. There the travelers could observe the birthplace of coal mining in America, the famous open quarry discovered by Philip Gunther, in 1791, where the enormous deposit of anthracite coal was worked in daylight. On their way to the quarry, the visitors passed the famous burning mine, which has been on fire since 1832 and is still burning. The return trip retraced the same route, through the rugged and picturesque country, to the starting point. After three quarters of a century of operation, the famous Mauch Chunk switchback railway was discontinued in 1939, but the scenic route is still a popular tour by motor bus.

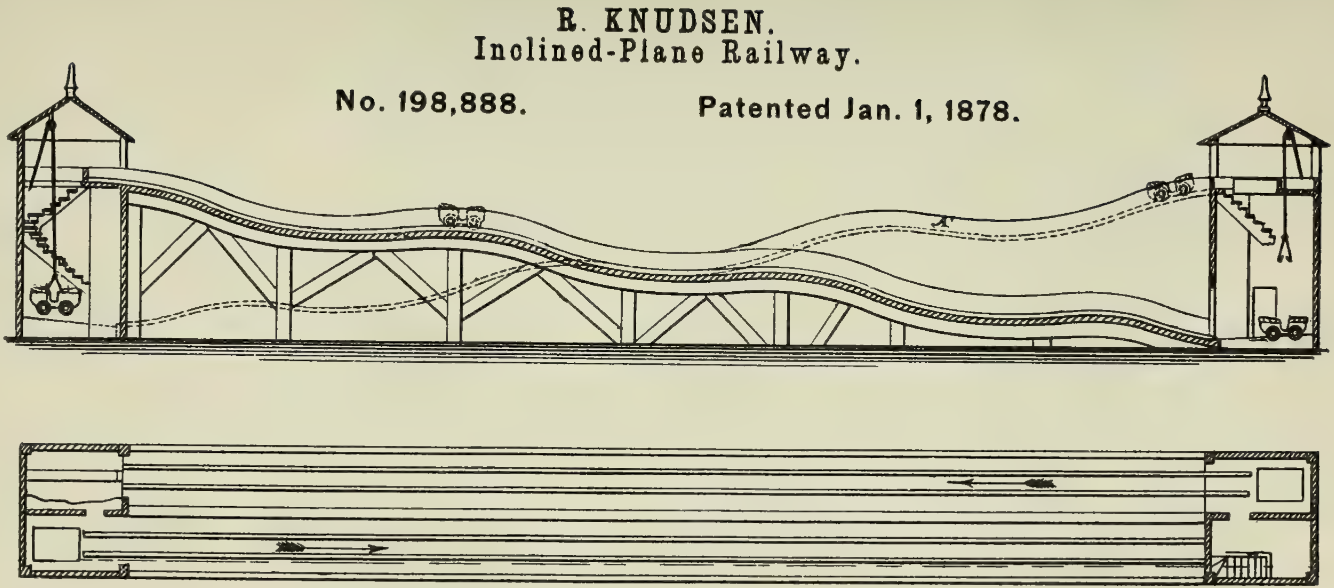
While the success of the Mauch Chunk switchback fully demonstrated the practicability of the device, it was by no means proof that similar rides, constructed on a smaller scale at amusement resorts, would produce a profit for the promoters.

The first American coasters began to appear at pleasure resorts in the seventies. These inventions were termed Artificial Sliding Hills and Artificial Coasting Courses. They consisted of short, inclined runways equipped with wide rollers set close together, similar to present-day roller conveyors. The sleds rolled down by gravity, and thus the name *roller coaster* originated. In 1884, gravity-ride operators introduced cars mounted on wheels, and rollers became outmoded, but the name *roller coaster* has remained to the present time.

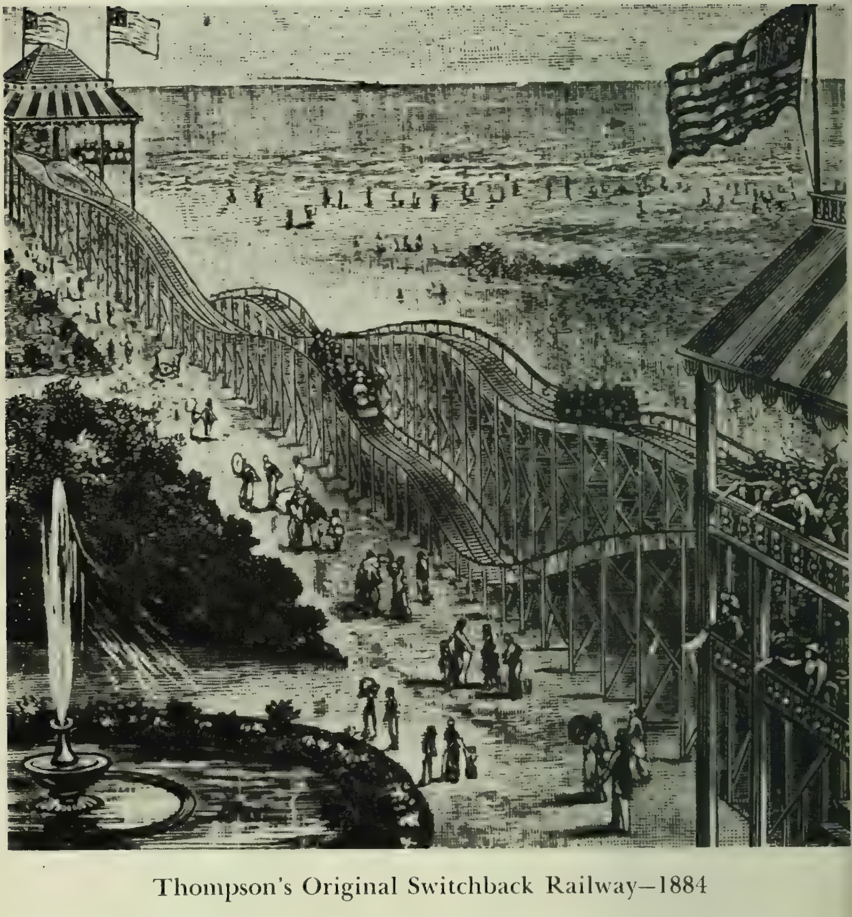
The long list of American coaster inventors is led by Richard Knudsen, of Brooklyn, New York, who received his first patent in 1878. His coaster consisted of two long parallel undulated tracks on which the coaster cars were operated by gravity. At both ends of the tracks, vertical elevators carried the coaster cars from the lower to the higher levels, ready for another start. Each of the cars had room for four passengers in double seats, facing each other, thus some of the passengers rode facing backward. There is no record that Knudsen ever put his invention into practice.

In 1884, LaMarcus Adna Thompson built his first gravity pleasure railway, at Coney Island. Like Knudsen's it consisted of two parallel undulated tracks laid on a timber frame, but minus the elevators. On these tracks Thompson operated small cars each seating ten passengers. Starting from the terminal and highest point, the cars ran over the undulated tracks until they came to a stop through loss of momentum, at the lower end of the tracks. At that point, the passengers disembarked and two attendants pushed the empty car to a higher level, followed by the passengers on foot. They then took their seats, facing in the opposite direction, and rode back to the starting point. Thompson named his ride the Switchback Railway.

This crude device became popular with pleasure seekers from the moment it opened, and receipts on some days exceeded five hundred dollars. News of Thompson's success spread rapidly in the outdoor amusement field, and orders for duplicates of his device to be installed in other locations were placed with him. The Humphrey Company of Euclid Beach Park, Cleveland, was the first to order Thompson's switchback.



Early American Coaster Plan—1878



Thompson's Original Switchback Railway—1884

During the same year that Thompson achieved success, another coaster inventor appeared in Coney Island. He was Charles Alcoke, of Hamilton, Ohio, who erected a roller coaster of his own devising at a location fronting the new Iron Pier. It also consisted of an undulated track on which small cars operated by gravity, but the track was laid out on an oval-shaped structure. The cars resembled park benches and the passengers rode sidewise. This new coaster was described in *Frank Leslie's Weekly* in 1886, as follows:

> The new Coney Island roller coaster is a contrivance designed to give passengers, for the insignificant expenditure of five cents, all the sensation of being carried away by a cyclone, without attendant sacrifice of life and limb. The roller coaster makes a complete circuit in a few minutes. The elliptical track is laid out on a system of precipitous descents and gently, billowy risings. Half a dozen can ride at once, seated sidewise upon a long bench . . .

This pioneer coaster was the first in this country to employ the oval track system which is now embodied in virtually all present-day roller coasters.

The following year a third coaster inventor appeared at Coney Island. He was Phillip Hinckle, of San Francisco, California, whose device also was elliptical in structure, with mild undulations. But unlike the Alcoke car design, Hinckle's cars were built so that the passengers faced forward. Hinckle's was also the first American roller coaster with a power-operated chain elevator which conveyed the loaded cars up the incline. There can be no doubt that this coaster was the incentive to subsequent rapid roller-coaster development. The Hinckle design was a great advance over Thompson's. However, for lack of progressive enterprise, Hinckle left further development and exploitation to others.

After his initial success with the switchback railway Thompson found that the coasters of his two rivals, because of their improved construction design, were proving a greater attraction to customers than his own device, and that his business was falling off. In addition other inventors had appeared with new designs. Thompson, therefore, decided to improve his ride. First he adopted the oval track system, with its dips and sharp curves, and the method of drawing loaded cars up the incline by moving cable and steam power. Then he invented an automatic cable grip. The grips, which were fixed beneath the cars, would automatically open and close when they came in contact with a trigger placed on the track at strategic points, as the cars passed over the moving cable. He also invented the articulated train. This consisted of two long car bodies mounted on three small railway trucks. By this innovation, passenger capacity was doubled. But Thompson did not stop with mechanical improvements.

He built dark tunnels over the tracks in which he arranged pretty scenery, startling grottos and historical tableaus. When the cars entered a tunnel, they tripped a switch which flooded the scenery with light, to the surprise and delight of the riders. Thompson named his new attraction the Scenic Railway.

In developing the first Scenic Railway, Thompson was associated with another coaster inventor, James J. Griffith, of Philadelphia. In 1887, they installed it on the Boardwalk, at Atlantic City, between New York and Tennessee avenues. This was the first scenic railway in America and due to its great novelty it became immediately popular. Patrons formed in long lines to await their turn for a ride. At the end of the season, a large profit had accrued to the promoters. Jubilant at their success, they laid plans to build similar devices in various amusement centers, but before they had proceeded very far dissension developed and the partnership was dissolved.

Thompson then organized the L. A. Thompson Scenic Railway Company, with offices on Broadway, New York City. Griffith pooled his patents with George C. Crane, also a coaster inventor, and formed the Griffith and Crane Scenic and Gravity Railway Company. Both concerns began to manufacture scenic railways, there being a wide demand for the new devices, but before long patent infringements developed between the rival companies and they became involved in litigation. The lawsuits were of minor importance, however, and both companies continued to prosper.

For some time the Thompson Scenic Railway was regarded as the leading amusement ride at all major expositions and amusement parks. Its slogan, "Ride it just for fun," became famous.

Thompson was born in 1848, in Jersey, Licking county, Ohio. He died at his Long Island estate, in 1930. The company he had founded continued in business under new management, and after several large-scale undertakings was liquidated in 1940.

In addition to the pioneer Coney Island coaster, S. E. Jackman, of Haverhill, Massachusetts, together with B. B. Floyd, built a roller coaster in the Globe Skating Rink at Haverhill, in 1886. The tracks of this coaster were attached to the inner walls of the large building. The roller-skating craze was then at its height and visitors had a choice of gliding over the smooth floor on skates, or riding around the rink in the coaster that skirted the walls.

Jackman and Floyd, with E. F. Merrill, later organized the Haverhill Roller Toboggan Company, which built and installed a number of roller coasters in many amusement centers.

The next major advance in roller-coaster construction was the figure-eight track, an innovation that was generally adopted. It consisted of a trough-like track, with a few mild dips, laid on a timber frame. An inclined chain elevator, operated by a small steam engine, drew the four-passenger cars up to the starting platform, and from that point they coasted by gravity through the entire course, and back to the terminal in position for the next start. The cars were mounted on four swivel caster wheels, and were guided by side friction wheels. This attraction, also highly popular, became generally known as the Figure Eight Roller Coaster.

At the turn of the century the popularity of the Figure

Eight coaster was at its height. Although it made a good profit, some operators wanted even larger coasters, with longer inclines, steeper dips, more speed, and increased passenger capacity. This demand resulted in the creation of the present-day, high-speed coasters. It was aided by the rivalry between coaster builders, which prompted manufacturers to outdo each other in producing coasters of a magnitude never before attempted. Higher and longer inclines, and dips of fifty to sixty feet became common, and the length of the ride was doubled and trebled. Dips were also combined with curves, which caused the cars to bank at a sharp angle as they descended the steep inclines at high speed. Cars, too, became larger, and were coupled into trains, and their speed increased.

This development in coaster design demanded great engineering skill. Safety rails, electric block systems, emergency brakes, underfriction to prevent derailment, and other devices thus became indispensible to insure maximum safety to the riders. As a consequence, the installation cost of the new coasters soared skyward, in some cases exceeding $200,000. In the meantime, the original Figure Eight coaster, with its short track and four-foot dips, involving an investment of about $16,000, was ignored and forgotten.

The length of track of a modern roller coaster varies from 2,000 to 4,500 feet, including dips and curves. The speed of the cars is greatly overrated by the general public. The prevailing opinion is that a speed of eighty to one hundred miles per hour is attained, but actually it is nearer twenty-four miles on the curves and thirty-five to forty miles in the valleys. The early Figure Eight coaster car rarely exceeded six miles per hour.

The attempt to produce keener thrills and to heighten the excitement of the ride led to some radical innovations. One was the Racing Coaster, which differed from the conventional type by employing two parallel tracks the length of the course. The cars on both tracks started simultaneously. A crossover on the track circuit balanced the length of inner and outer track, thus the cars on the outer track finished

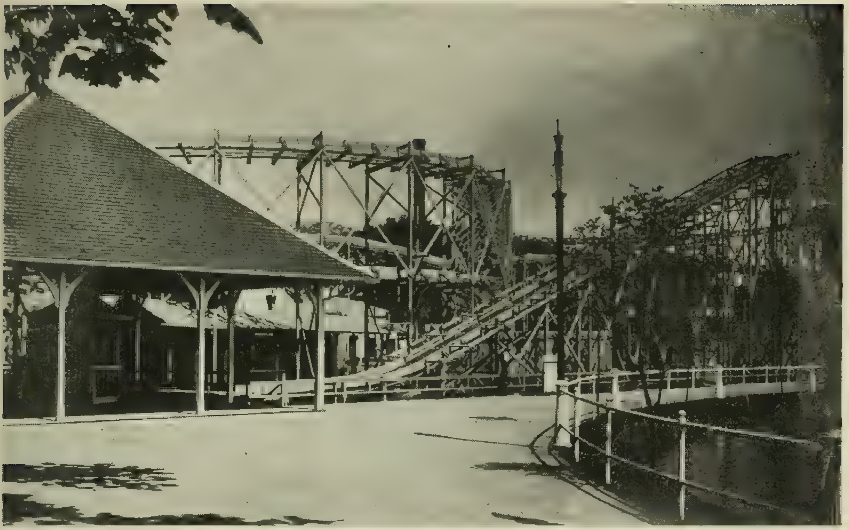
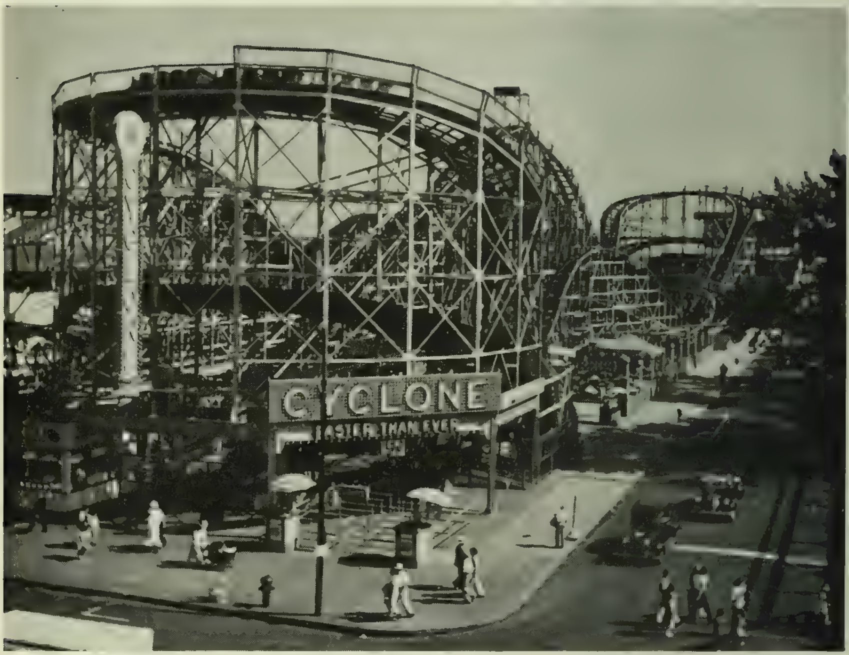


Figure-Eight Roller Coaster—Chesnut Hill Park, Pa., 1890



Modern High-Speed Coaster—Coney Island

their run on the inner track. One type of racing coaster was conceived in France, in 1817. In this country, J. J. Griffith first introduced it, in 1895, and others improved on its design.

An unusual type of coaster was operated by Thomas Rankin, of New York, at the Chicago Exposition, in 1893. Instead of the usual double-rail track for cars on wheels, the track was of ice, and the cars were equipped with sled runners. Throughout the circuit the track was lined with iron pipes, and as the freezing brine circulated through the system ice formed on the outside of the pipes, thus providing a smooth ice track on which the sled-cars coasted by gravity over the entire course.

After the close of the fair, this coaster was removed to Coney Island and erected on West Tenth Street. Then troubles multiplied rapidly. In Chicago, the slide was shaded by the great Ferris Wheel, but in Coney Island the sun beat fiercely down on the ice track, the refrigerating pipes of which were connected to the iceboxes of nearby saloons. Despite the use of awnings and a large addition to the pumping system, it became impossible to maintain a hard ice surface, without which the sleds could not gain the required momentum, and the ride had to be closed.

Roller coasters that may be moved easily from place to place are unknown in this country because each of the many permanent outdoor amusement centers in America is usually fully equipped with the major amusement devices. But in European countries portable roller coasters have been developed. In 1906, the German amusement promoter, Carl Gabrial, of Munich, contracted with Frederick Ingersoll, of Pittsburgh, Pennsylvania, for the construction blueprints for a roller coaster. The price agreed upon included the services of a trained mechanic, skilled in the construction of coasters. In due time the American mechanic arrived in Germany with the plans. After studying them the Germans decided to construct a coaster that could be rapidly erected and dismantled at the convenience of operators who traveled from one fair or festival to another. The plans were modified and the new coaster was constructed, the first in Germany. It was first put into operation at a Munich festival and was named *Achtbahn.* Soon thereafter similar coasters were constructed that could be erected in thirty hours' time. Traveling operators brought them into other European countries, and they are now a popular attraction at all leading fairs and festivals on the continent.

A daring coaster design which inventors have dreamed about for years and hope sometime to perfect is the so-called leap-the-gap coaster, in which the speeding car, loaded with passengers, leaps a wide gap in the track, and after the leap continues its journey through the course and back to the terminal. Up to this time no coaster of this type has been successfully operated. The essential requirements to accomplish the feat are high speed of the car, fixed weight of the car, and an infallible landing after the gap has been crossed. Of these, the high speed of the car can be easily attained, but a fixed weight of the car is a problem. If the coaster operator could select patrons whose aggregate weight equaled the exact number of pounds required, it would help solve the problem, but this is virtually impossible as passengers must be taken as they come. How to insure the safe landing of the car after the gap has been negotiated is another problem still unsolved.

An experimental leap-the-gap roller coaster was constructed at Coney Island by J. F. Meyer, in 1902. The cars of this coaster were drawn up the usual incline and, at its apex, entered the breach of a large wooden cannon. Passing through the bore, the speed of the car was accelerated to a high velocity, and as it shot out of the cannon's mouth it leaped a gap in the track. After successfully negotiating the gap, it continued its journey around the track and back to the terminal. After numerous trials, it was found that a variation in the weight of the car would change its trajectory, with a crack-up as the probable result. As a consequence, the gap had to be eliminated.

Perhaps the future leap-the-gap coaster will discard all present-day coaster traditions and take on a new form, based on the rocket principle. It may be visualized as follows: the car, in the form of a rocket, is constructed of transparent plastic which encloses form-fitting seats. The entrance door is at the rear. The operation may be like this: After the passengers have been seated, the door is closed, the rocket is switched into a long cylinder, and compressed air or some other propellant is turned on, which catapults the rocket into space. After flying swiftly in a high arc through the air, it lands in a funnel-shaped receiver and rolls to a stop, in position to make the return trip in the same manner. The name? Rocket Coaster! Where is the aircraft engineer who can design such a coaster, to operate within the confines of an amusement park?

Thus was the popular roller coaster developed in this country, beginning in the eighties of the past century. It became a favorite diversion at many amusement centers, and even the smallest park could boast of such a device. It was almost always a money-maker, although for years the fare was only five cents a ride.

The invention of the roller coaster cannot be credited to any single man. It has developed, step by step, by men who, from the very outset, had more faith in experimental procedure than analytical methods. Following is a list of American pioneer coaster inventors who contributed to its development:

Richard Knudsen, Brooklyn, N. Y.	1876
Thomas Alexander, Cambridge, Mass.	1882
Robert Steel, Philadelphia, Pa.	1883
Phillip Hinckle, San Francisco, Cal.	1884
Charles Alcoke, Hamilton, Ohio	1884
L. A. Thompson, South Chicago, Ill.	1884
Joshua Pussey, Philadelphia, Pa.	1885
J. J. Griffith, Philadelphia, Pa.	1885
S. E. Jackman, Haverhill, Mass.	1886
B. B. Floyd, Haverhill, Mass.	1886
Odel Root, Minneapolis, Minn.	1887
E. F. Merrill, Stratford, N. H.	1887

CHAPTER 9

Centrifugal Pleasure Railways

The centrifugal pleasure railway is a variant of the roller coaster, its chief difference being in the means employed to thrill the rider. The cars of both, after being drawn by power to a high take-off platform, generate their initial speed as they descend by gravity down a steep incline, but instead of the subsequent dips and climbs of the roller coaster, the centrifugal pleasure railway presents, at the bottom of the incline, an overhead loop around the inside of which the car and its riders are whirled, before momentum slackens and the car coasts ahead to the terminal. The centrifugal force developed by the speeding car while in the loop prevents the passengers from falling out of their seats while upside down.

An early centrifugal railway was operated in the Frascati Garden, one of the great amusement parks of Paris, a century ago. It is described in the *Journal du Havre,* of August, 1848, as follows:

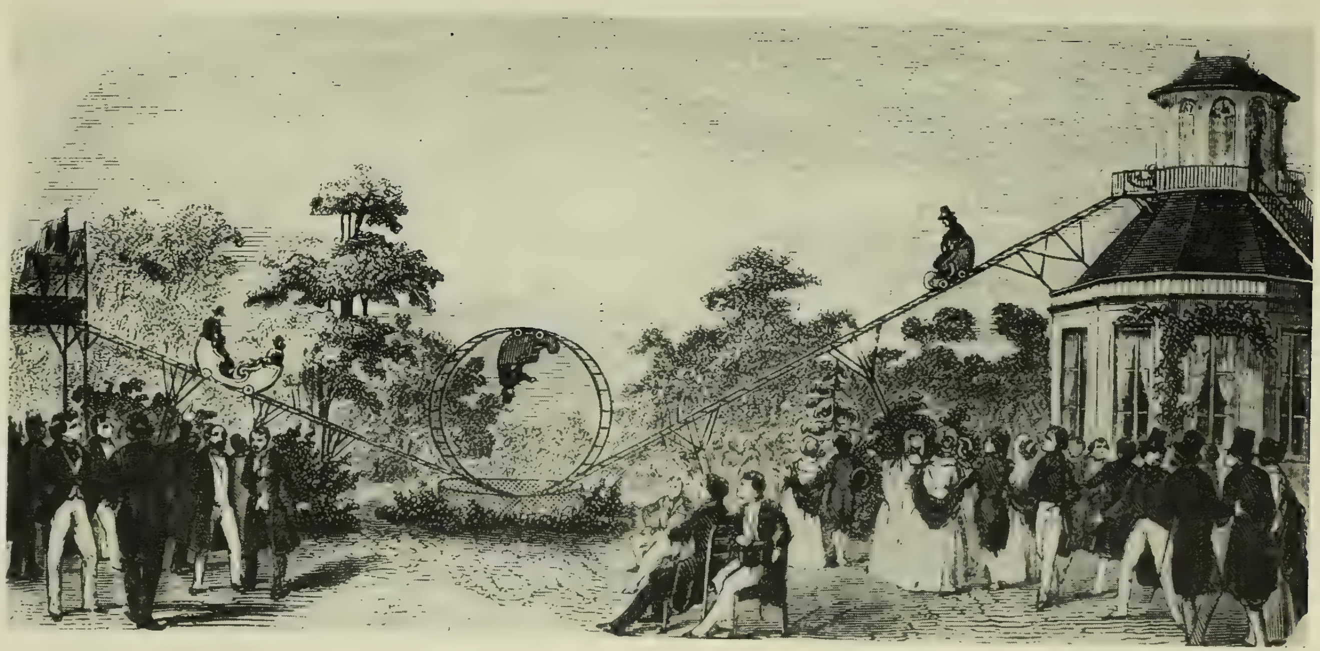
> Today has been tested for the first time in France, in the Frascati Garden, the only existing *Chemin du Centrifuge* we have in France. It was imported from England where there is another, built on a smaller scale, the loop of which has a diameter of only

> six and a half feet, instead of the thirteen-foot diameter of ours. The starting point is thirty feet above the ground and the one-hundred-and-five-foot slope drops seventeen inches every three and a half feet. The experiment was made with four bags filled with sand, weighing sixty-six pounds each. The results were most gratifying and the Minister of Public Works, who was present, highly praised the work of the engineer of the machine, M. Clavieras.
>
> The terrific speed at which the cars enter the loop (more than one hundred and fifty miles per hour) was especially noted. One should understand, of course, that at a certain moment the car is completely upside down and is maintained on the rails only by centrifugal force. The cars have been filled with eggs, flowers, glasses of water . . . and a workman, even, has ridden as a passenger. Starting from the highest point, he reached, in eight seconds, the extremity of two hundred and forty-eight feet. On landing, he appeared very satisfied with his journey. While going down he could see everything around him, but when within the loop he was unable to see anything. Going upgrade, he had clapped his hands as he ascended. He had no trouble breathing and during the loop proper experienced such a delicious feeling that he wanted to try again. A collection made for him after each run amounted to one hundred and twenty francs, the first time, and sixty francs the second.

This was without a doubt the first instance on record of a human being riding on a centrifugal railway. The name of the courageous French workman is not recorded, nor was a monument erected in his honor. Whether this novel device was used to carry amusement-seekers or only as an interesting demonstration is not recorded either, nor have any traces been found of the English device on a small scale mentioned in the French newspaper. Apparently they were completely forgotten, to be reinvented a century later.

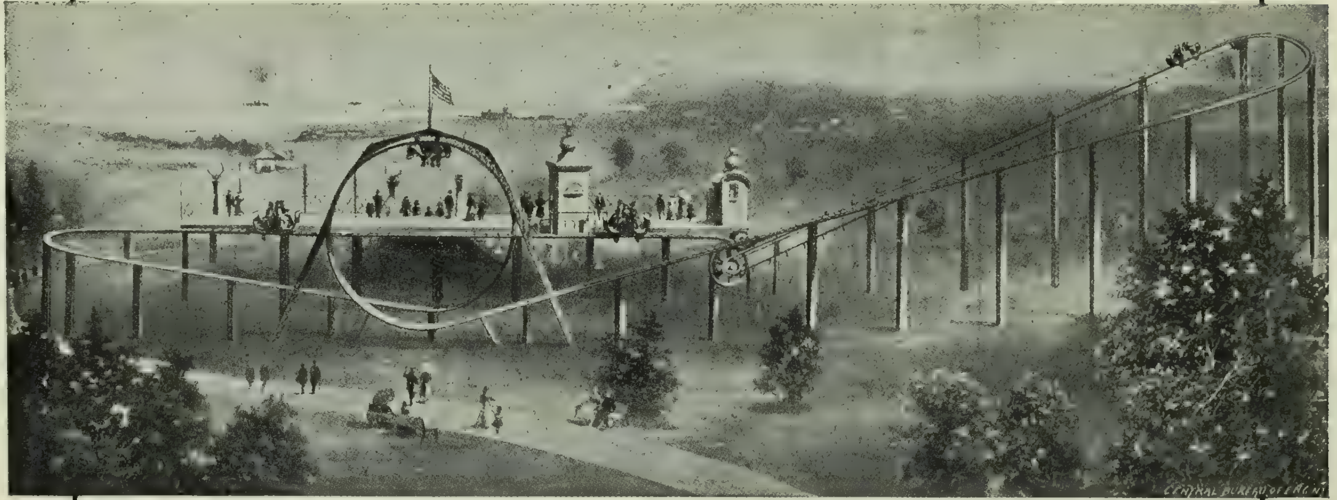
In this country, the first amusement device of this nature was invented by Lina Beecher, of Batavia, New York, in 1888. Beecher installed it experimentally in a park in Toledo, Ohio. The following year he and Paul Boyton erected the new ride in Boyton's Sea Lion Park, Coney Island.

The Beecher coaster consisted of a steep incline with a vertical overhead loop at its base, and a track of the monorail



French Centrifugal Railway—1845

Most Wonderful Railway Ever Built for Pleasure Parks


CENTRAL BUREAU OF ENG. N.Y.

The Centrifugal Cycle Railway

PASSENGERS AND CARS UPSIDEDOWN

IMPOSSIBLE is your first thought. To accomplish the impossible is what is wanted as an attraction. We have accomplished the above feat and at a profit that surpasses the Ferris Wheel, Switchbacks, Roller Coasters, Chutes or Scenic Railways. At Coney Island, N. Y., we are constructing one of these structures for Capt. Paul Boyton. He says "it will be the greatest attraction on the Island and the biggest money-maker.

The first structure of this character was erected in Toledo last year, and after carrying thousands of men, women and children without a single accident, fully demonstrated not only that the law of centrifugal force could be applied to a railway, but that, with our system regular passenger cars, can be run on any grade, around any curve, going to the extreme of throwing a somersault, all without the danger of leaving the track, and this at any attainable rate of speed. The fact is, these cars cannot leave the track. It is a bicycle system and requires but 10 per cent of the usual power.

This road is built upon the Monorail or American Railway system, invented by and bought of Capt. Lina Beecher, Superintendent of this company, who is planning several roads for fast air lines with a speed of two hundred miles an hour.

Contracts filed immediately will insure erection of structures within 30 days. We build and sell outright only.

OSBORN CONGELTON, Pres. and Gen. Mgr.
Capt. LINA BEECHER, Gen. Superintendent.

AMERICAN RAILWAY COMPANY, **6 WALL STREET,**
NEW YORK.

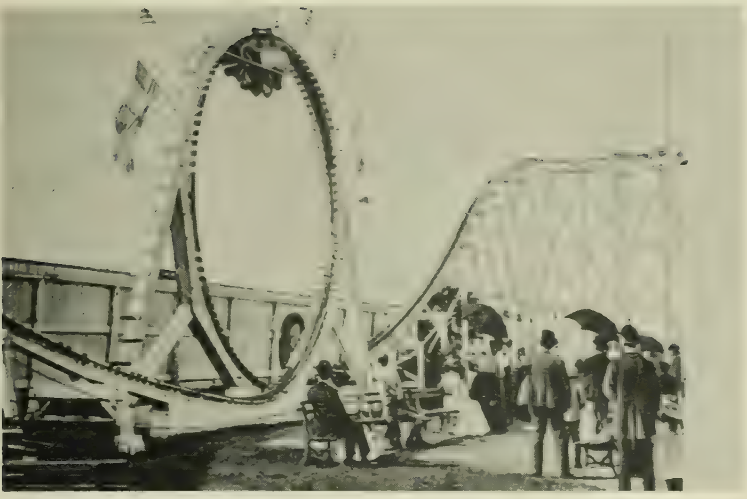
Advertisement in *Street Railway Journal*—1900 type. The small car seated two passengers, tandem fashion. The new ride was named the Flip-Flap. In operation, it developed serious difficulties which eventually doomed it to failure. The loop in this coaster was approximately twenty-five feet in diameter and of true circular form. In operation, it was found that the car, after racing at high speed down the incline, exerted a very unpleasant strain on the riders, on entering the loop. The sharpness of the jerk, they complained, left them with a pain in the neck after a ride. At first, the management refused to take the complaints seriously, but soon they realized that something must be done. The seats in the cars were changed, and other minor alterations were made, but the riders continued to report their aches and pains. Finally, patronage declined to such an extent that the ride was abandoned and the structure dismantled.

Similar coasters were operated for a while at Atlantic City and Forest Park Highlands, St. Louis. The Forest Park Highlands ride continued until 1906. The inventor organized the American Railway Company with offices in Wall Street, New York, and an extensive advertising campaign was planned, but the invention eventually faded into oblivion.

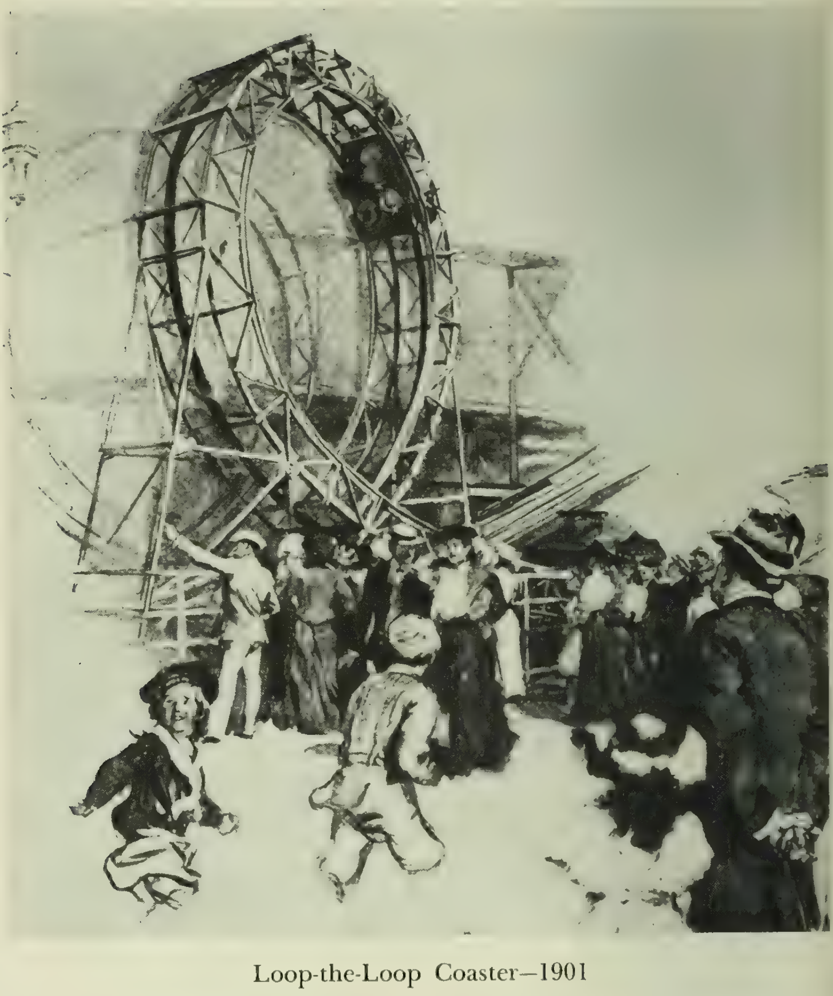
The first successful centrifugal coaster was erected on Surf Avenue, at the corner of West Tenth Street, Coney Island, in 1901, by Edward Prescott, of Arlington, Massachusetts. The plans for this coaster were prepared by J. R. Worcester, of Boston, a noted consulting engineer and a Harvard graduate. The plans included a new form of loop patented by E. W. Green, of Brooklyn, New York, July 9, 1901. The loops of all previously constructed centrifugal coasters were of true circular form, but the Green invention provided an elliptical loop which proved to be the factor that turned failure into success.

A swiftly moving car on this form of track enters and leaves the loop on a gradually curved course, causing not the slightest discomfort to the riders. In arriving at the solution, Green had carefully worked out a mathematical formula, as disclosed in his patent, which showed that a circular loop was impractical. The new structure was of substantial design, the loop proper being of steel construction. The self-steering cars were equipped with rubber-tired wheels and each carried four passengers. Special guard rails insured against derailment and no car was put into operation until one ahead of it had negotiated the loop. These as well as other measures were taken to insure safety.

Prescott named the new coaster the Loop-the-Loop, and it received nationwide publicity as the most thrilling ride ever invented. At Coney Island, admission was charged just to enter the enclosure in which it was operated. Many timid visitors paid admission only to watch the more daring take the ride. The following year, similar coasters were installed in other amusement centers, including Chicago, Boston and Buffalo. They were a sensation for several seasons, but only a few survived more than a decade because of low earning capacity. The fact that a centrifugal coaster is not a repeat ride, and the limited capacity of its cars, which carry only four passengers in five minutes, as compared with a high-speed coaster which carries twenty-four passengers in half the time, made the centrifugal pleasure railway a less attractive investment.



Flip-Flap Coaster–1888



Loop-the-Loop Coaster—1901

CHAPTER 10

Pleasure Wheels

Perhaps no other single feature of the Columbian Exposition, held in Chicago in 1893, attracted as much attention as the giant Ferris Wheel. Its steel skeleton, a novelty to all eyes, dominated the exposition grounds and compelled expressions of wonder from young and old alike. Men marveled at its great size, and many experienced a sense of awe on first seeing the great circle start moving, and its cars appear smaller and smaller as they rose to the height of the structure. Rides on the Ferris Wheel were undoubtedly the most thrilling experience many visitors to the exposition had had up to that time. Modern engineering science in steel construction had seemingly wrought a miracle.

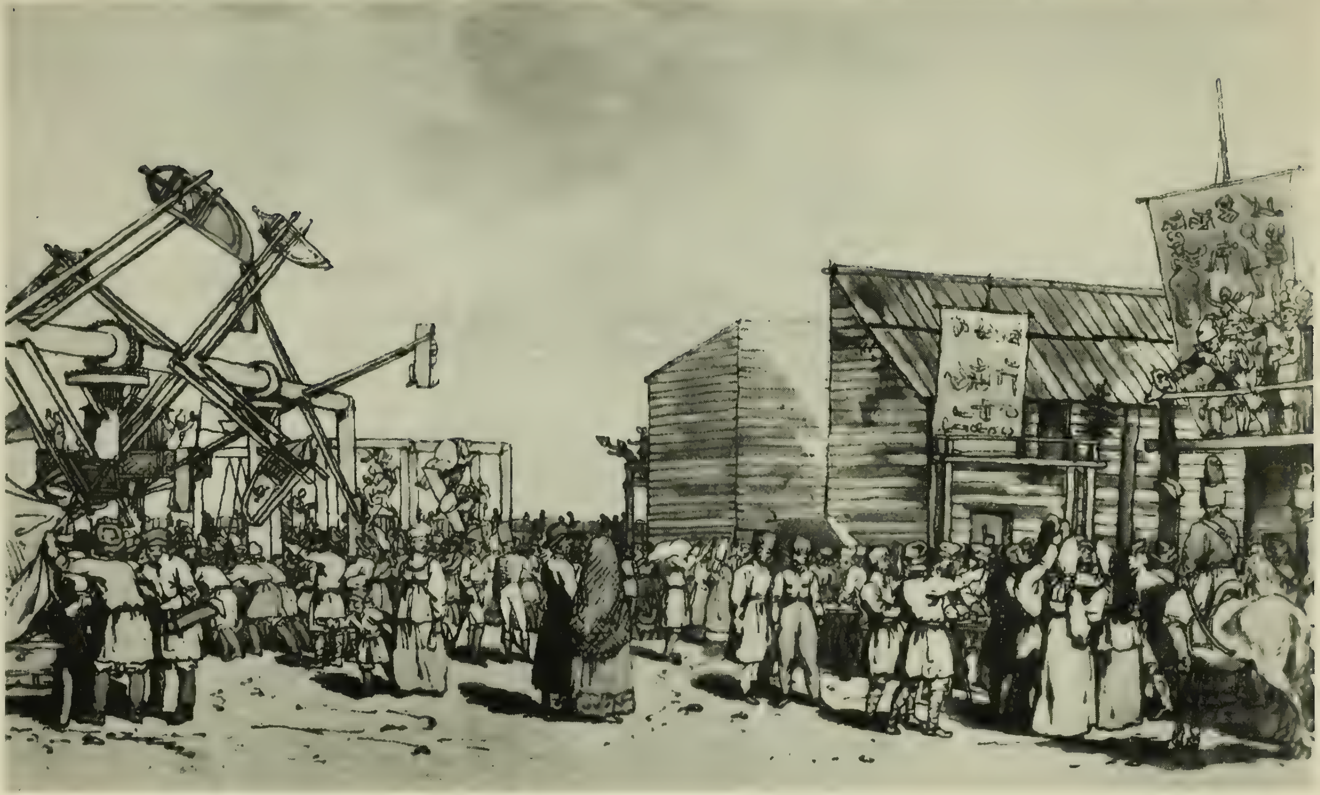
The Ferris Wheel was really a development of the primitive pleasure wheels that European and Oriental countries had enjoyed for centuries. Primitive swings of this type are in use today in Albania, Siberia, Palestine, and Oriental countries, and their origin is difficult to determine. All of these crude wheels are operated by men who stand on the ground and operate the swings by hand. However, in some countries the swings seem to have received the attention of inventors. Old prints of Russian fairs show pleasure wheels being operated by men walking on the ground in circles, or straining on levers attached to wooden cogwheels and thus rotating the swing. These swings were known as Katcheli and were described, in 1803, as follows:

> The Katcheli turns upon a horizontal cylinder held between two pillars. Eight string poles forming four arms are fixed crosswise in the cylinder, and between the ends of each pair of poles is a seat which is loosely held by pegs on each side between the poles. When the cylindrical axle is rotated by two men, one on each side between the pillars, the cylinder turns the arms end over end and the passengers in the seats are carried up, over and down repeatedly. In some of the less primitive Katcheli, the cylinder is turned by meshed cogwheels, although handpower is still the original motive force. The swings are always an amusement feature of Easter week.

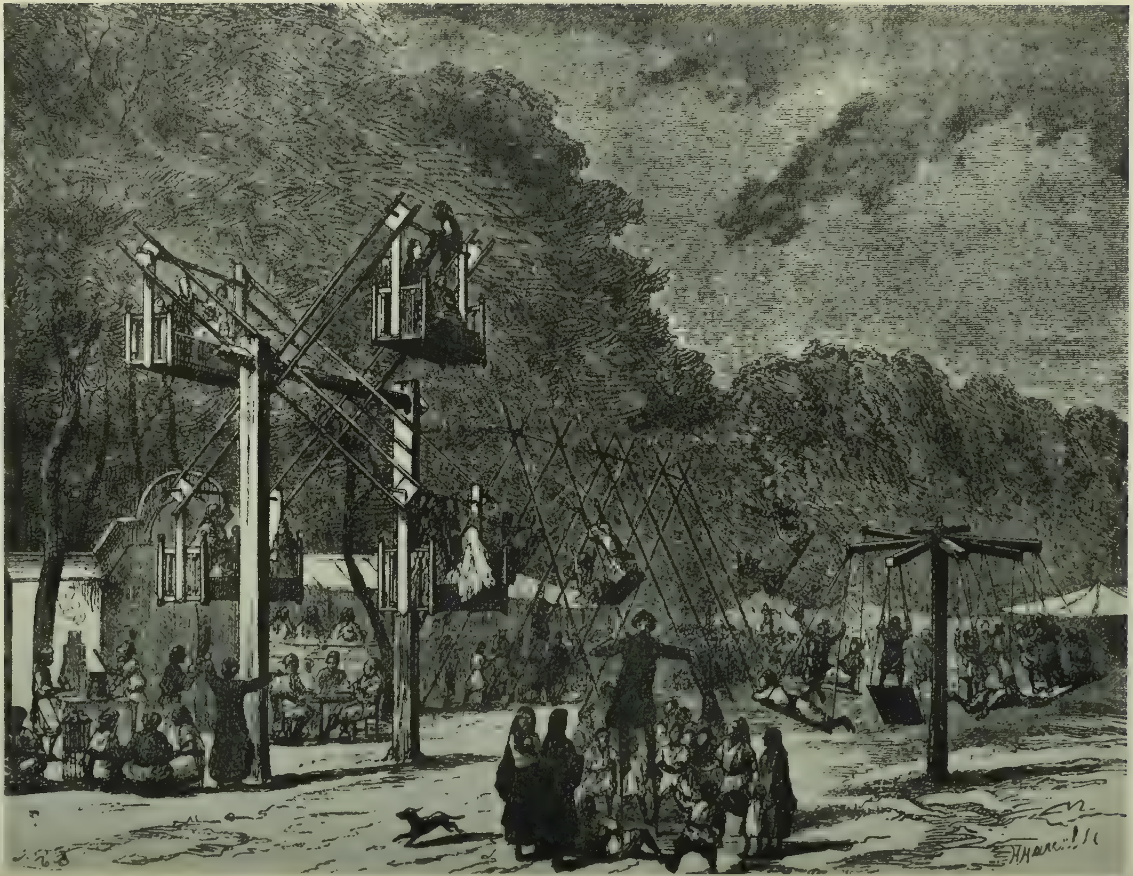
During the following century swings were further developed in European countries. They became leading attractions at fairs and festivals and were adorned with decorated façades and mechanical organs. In France, gaily colored toy balloons were tethered to the swing seats. A German inventor attached bevel gears to the seats of some of the swings which caused the seats to revolve when in motion. In England, pleasure wheels were known as "perpendicular roundabouts."

In this country, pleasure wheels were little known prior to the nineteenth century. The first patent for this type of device was obtained by I. N. Forrester, of Bridgeport, Connecticut, in 1867. It consisted of two wheel swings set close together and rotated by a gear drive.

Another early pleasure wheel was the Dare Wheel, manufactured in Brooklyn, New York, about 1870. It measured twenty feet in diameter and was constructed of wood. Motion was imparted by turning a crank. In 1885, the Strobel Company, of Marion, Ohio, began to manufacture a wooden pleasure wheel twenty-five feet in diameter, with eight seats. It



Russian Pleasure Wheels—1803



Swings at Mohammedan Festival—Alexandria, Egypt, 1790 was rotated by a light steel cable running in the grooved rim of a wheel, a small gasoline engine providing the power. The entire outfit sold for $450.

During the eighties, the Conderman Brothers, of Clay City, Indiana, later of Hornellsville, New York, developed the first pleasure wheel of improved design. The wheel had a diameter of thirty-five feet and was constructed of metal tubing. Twelve buggy-like carriages seated two passengers each. It was rotated by gasoline-engine power through a wire cable, and it was designed to be easily moved from place to place. One of the brothers, J. G. Conderman, obtained a patent on this type of pleasure wheel on March 12, 1901, specifying twenty-one claims, some of which embodied basic designs of pleasure wheels which could not be legally supported, in view of the centuries-old principle involved. Conderman instituted patent infringement suits against other wheel builders, including Newton M. Johnson, James H. Clermont, and W. E. Sullivan. A court decision, in 1904, held that the basic principle of rotary swings was of ancient origin and therefore could not be patented. However, it was pointed out that improved details of construction may be patented.

A number of Conderman wheels were produced and they became highly popular at fairs and carnivals. Credit must be granted to this inventor for producing a larger and improved pleasure wheel which gained public approval and served others as a model.

The name Ferris Wheel was unknown until George Washington Gales Ferris, head of the Pittsburgh Bridge Company, built the great wheel for the 1893 Chicago Exposition. It is claimed that the creation of this giant structure was inspired at a banquet given by the directors of the fair to their architects and engineers, a year before the opening. One of the speakers at the banquet deplored the fact that American engineers had failed to produce an outstanding attraction for the fair, referring to the Eiffel Tower of Paris as a spectacular example. One of the engineers present was Ferris, who took to heart the rebuke to his profession. The result was the erection of the giant wheel, which became widely known as the Ferris Wheel. The construction of large pleasure wheels had been proposed several years before by the marine engineer J. W. Graydon, of Washington, D. C., who advocated very large wheels with slow rotation and comfortable cars, from which groups of passengers could view the surrounding scenery.

In its design, the Ferris Wheel differed greatly from other pleasure wheels of the period by its enormous size, the details of its construction, and its suspension system, the latter being similar to that of a bicycle wheel. To suspend such a giant structure on slender rods required great engineering skill, because of the expansion and contraction of its parts caused by atmospheric conditions. The diameter of the Ferris Wheel was two hundred and fifty feet, and its total height was two hundred and sixty-four feet. The two steel towers that supported its axle were one hundred and forty feet high. Each comprised four legs resting on massive concrete foundations, to which they were securely anchored in order to resist the enormous wind pressure which the structure was subjected to at times. The axle, thirty-two inches in diameter and forty-five feet long, was forged hollow with a seventeen-inch bore. It weighed 140,000 pounds. Each of the thirty-six cars, which were twenty-six feet long and thirteen feet wide, accommodated sixty passengers. The cars were attached to the periphery of the wheel by a steel axle six and one-half inches in diameter, extending horizontally through the roof of the car. The furniture consisted of sixty revolving chairs and with sixty passengers each car weighed sixteen tons.

Motion to the great wheel was imparted by two 1,000-horsepower steam engines and it was equipped with Westinghouse air brakes. One of the engines operated the wheel and the second was held in reserve for emergencies. Power was transmitted to the wheel at its lowest point by a loop of heavy chain operating over two large sprocket wheels and meshing into teeth secured to the periphery of the wheels. This powerful drive permitted the wheel to operate with either full or only partly loaded cars, thus eliminating the balanced-load requirement inherent in some pleasure wheels. Its speed was one revolution in twenty minutes, two revolutions constituting a trip.

The total weight of the wheel was 2,807,498 pounds, and the weight of the fixed towers alone was 608,000 pounds. Ferris designed its entire structure and it was fabricated by the Detroit Bridge and Iron Works, at an initial cost of $380,000. During the fair, it carried more than two million passengers.

Some time after the fair had closed, the big wheel was removed to another location in Chicago, and later to the St. Louis World's Fair, which was held in 1904. At this fair, the gross receipts exceeded $257,000, but transportation and re-erection had been costly, leaving only a slim profit. At the close of the fair, the wheel was sold to a wrecking company which scrapped it by dynamiting the structure.

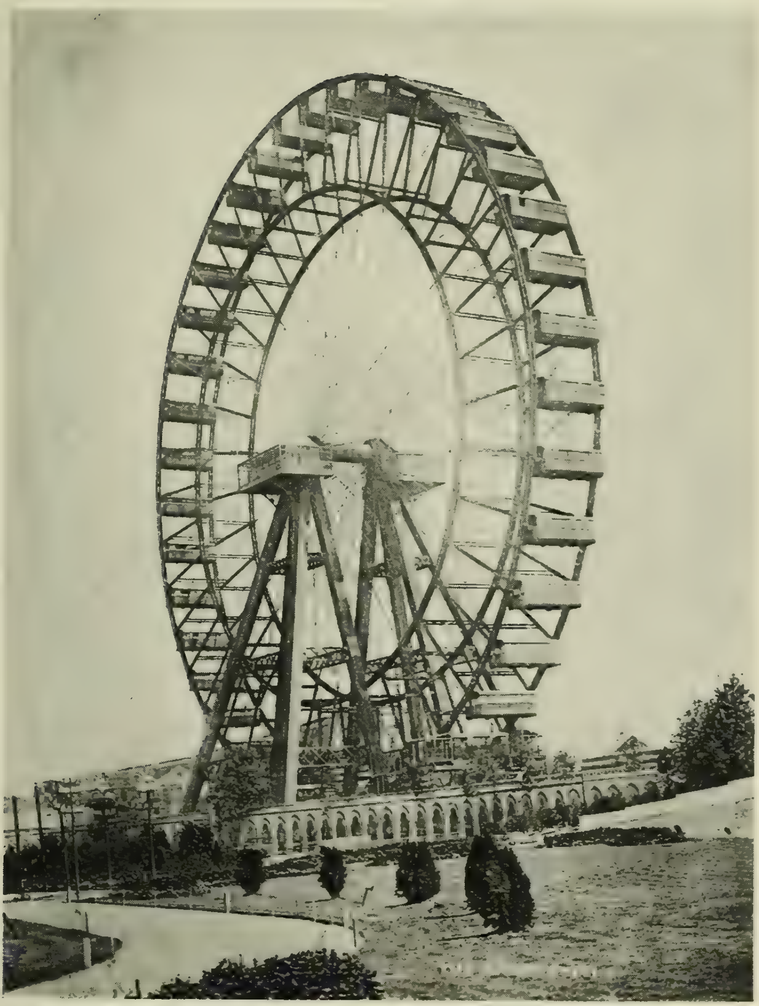
The success of the Ferris Wheel at the Chicago fair started many minds to work on devices of similar though lesser magnitude. The Phoenix Iron Works, of Pittsburgh, Pennsylvania, built pleasure wheels one hundred and fifty feet in diameter, with rigid spokes. Their twelve cars each seated ten passengers. The many pleasure wheels of fantastic design that followed are beyond description: wheels within wheels, wheels that lifted coaster cars to a high level, and wheels with observation towers and elevators. Inventor Quincy Stubbs, of Cincinnati, operated his wheel with water power. A series of buckets attached to the wheel were filled with water at the highest point and the weight of the water turned the wheel. Another inventor provided sliding seats which bumped violently from one spoke to the next as the wheel revolved.

Several American showmen devised a "duplex" wheel, which has become popular with carnivals. It consists of two or more portable pleasure wheels placed in close proximity but operated independently. The first "duplex" wheel in this country was operated at a county fair in Decatur, Illinois, in 1928, by the Royal American Shows. The American "duplex" was preceded by a "triplex" wheel at Irkutsk one hundred and fifty years ago, as may be seen in the illustration facing page .

W. E. Sullivan, of Roodhouse, Illinois, a builder of highway bridges, made a close study of the construction of the Ferris Wheel. His intention was to build a smaller wheel that could be easily transported from place to place. In 1900, he produced his first wheel. In many respects it was like the Conderman wheel, though more substantially constructed, but it bore no resemblence to the Ferris Wheel. Each wheel he subsequently produced showed an improvement and the fourth was a completely portable type, forty feet high, with twelve buggy-like swinging seats, and interchangeable parts. It was rotated by a gasoline engine operating a wire cable. In the meantime, Conderman had instituted patent infringement proceedings against Sullivan, but his claims were not sustained by the courts. Sullivan's wheel proved a success and, in 1906, he incorporated the Eli Bridge Company and later established a factory in Jacksonville, Illinois, for the production of his invention. He named it the Big Eli Wheel and it became highly regarded by showmen. A number of these wheels are still in operation here as well as in foreign countries.

Another type of forty-foot portable pleasure wheel was produced by the W. C. Parker Company, of Leavenworth, Kansas. It had enclosed cars, each with a seating capacity of four passengers. Only a limited number of this type were produced.

A pleasure wheel of unusual design is the Wonder Wheel. In its revolving structure are built-in curved tracks on which small passenger cars operate. When the wheel is in motion these tracks incline, causing the cars to roll back and forth. The wheel has a diameter of one hundred and thirty-five feet and a total height of one hundred and fifty feet. Its sixteen rolling and eight nonrolling cars each seat four pas-



Graydon Wheel—1894

engers. It is operated through gearing by a 40-horsepower motor and makes two revolutions in seven minutes, including the loading and unloading of passengers. The Wonder Wheel is the invention of Charles Herman, of New York, and was erected by Herman J. Garms, Sr., in 1920, at Coney Island, where it is still being operated.

The fame of the Ferris Wheel spread widely. In England, a young engineer, Walter B. Basset, of Devon, became greatly interested and through his effort four large pleasure wheels were erected in several European cities. Basset placed the first of these in the exhibition grounds of Earl's Court, London, in 1894. It exceeded the famous Ferris Wheel in size and was the largest pleasure wheel ever erected anywhere. The design of this giant wheel is credited to the American marine engineer J. W. Graydon, in conjunction with J. J. Webster and M. Inst. In design it followed the general lines of the Ferris Wheel, including the suspension system, but instead of solid rods, as used by Ferris, the English wheel had tension spokes of steel cables. The big wheel was constructed by several large British firms, and became known as the Graydon Wheel. It had a diameter of two hundred and seventy-six feet, a total height of three hundred and twenty-eight feet, and a weight of one thousand-five hundred tons. A full complement of passengers added another one hundred tons. The great axle of the wheel was of special interest. It consisted of a large steel tube of reinforced steel plate, thirty-five feet long, seven feet in diameter and weighing sixty tons. The two massive towers were one hundred and fifty feet high. On top of the towers were promenade platforms that were reached by double lifts operating in the towers. On payment of a fee, the patrons could ascend in the lift of one tower, walk from one balcony to another through the great axle, and descend in the lift of the opposite tower. This unusual attraction was introduced to bring in additional revenue.

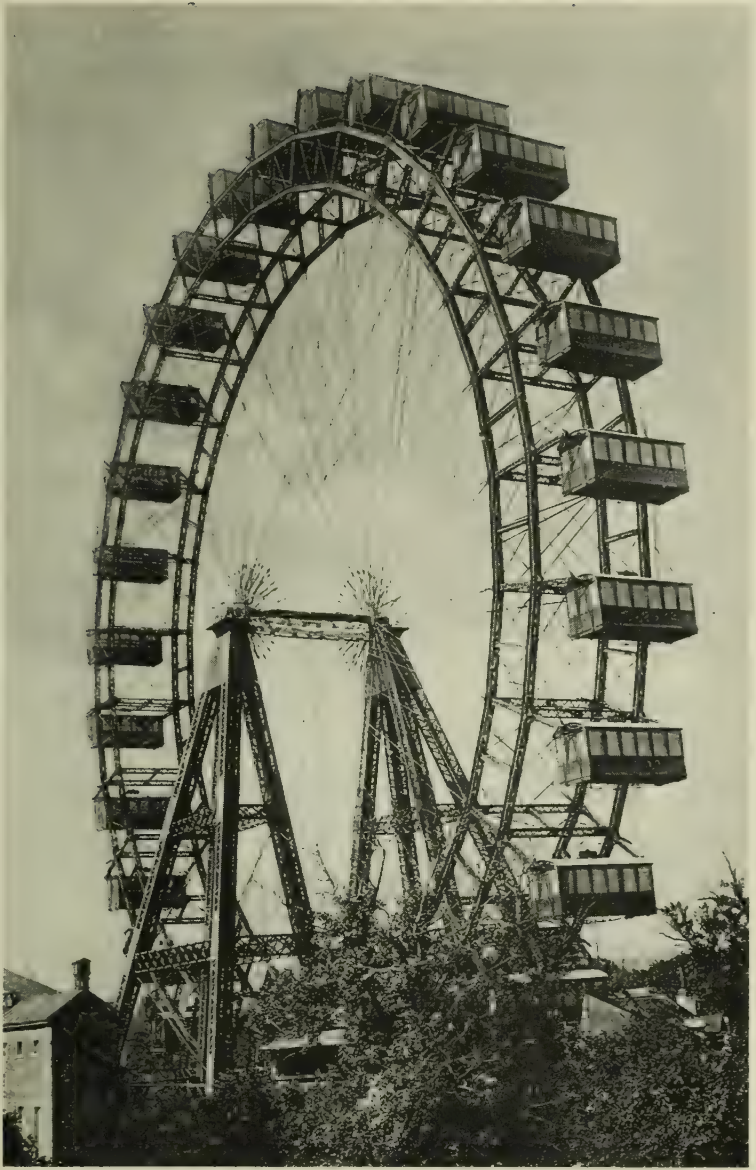
On the periphery of the wheel, forty cars were suspended. Each measured nine by twelve feet and had a capacity of thirty passengers. Ten of the cars were designated as "firs class" and were elaborately furnished with costly draperie and velvet seats; five were labeled "smoking cars." Eigh cars could be loaded at one time, thus with five stops th forty cars could be loaded with a total of one thousand tw hundred passengers, after which a complete turn without stop constituted a trip. The wheel was rotated at a very slo speed by means of two chains passing over guide brackets t two 50-horsepower engines. This giant wheel was full described in the *London Times* of April 30, 1895.

Despite its enormous size and novel features, the Graydo Wheel never enjoyed the wide fame of the Ferris Wheel After the close of the exhibition, in 1896, it was dismantle and scrapped. No records are available as to the origina cost, nor of its earnings during the exhibition.

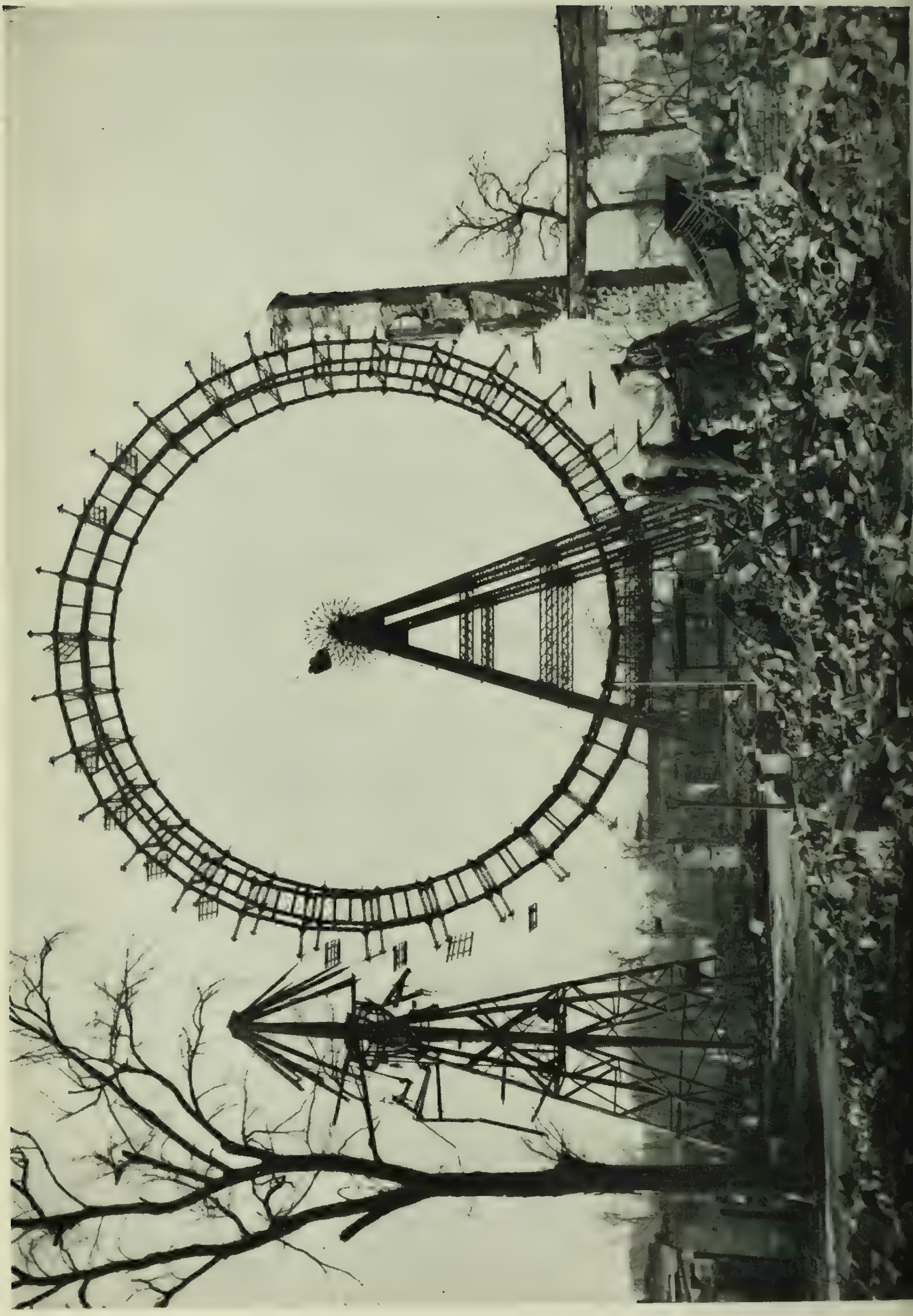
Basset erected his second pleasure wheel at Pleasure Beac Park, Blackpool, in 1896. This wheel was of less pretentiou design, with a diameter of two hundred and forty feet an thirty cars, each of twenty-four passenger capacity. It wa operated up to 1927.

Basset's third pleasure wheel was erected in the Prate Vienna's widely known amusement center, in 1897, on th occasion of a national celebration of the fiftieth anniversar of the ascension to the throne of Kaiser Franz Joseph I. Th wheel was named the *Riesenrad*. It had a diameter of tw hundred feet and a total height of two hundred and twent six feet. It weighed four hundred and thirty tons. Th forged steel axle, thirty-three feet long, weighed thirty ton The thirty cars each had a seating capacity of twenty pa sengers. The car design was modified by suspending ther on brackets extended from the rim of the wheel. It wa rotated at a very slow speed by two cables attached to tw 18-horsepower electric motors.

In Vienna, the young English engineer encountered man unexpected difficulties. From the very beginning the loca authorities were skeptical as to the safety of such a structure and it was pointed out to him that they considered it unwis



Riesenrad—The Prater, Vienna, 1897



to invest three quarters of a million *kronen* in a structure erected on ground held only by a short and unfavorable lease. It was also made plain to him that the consent of the authorities could not be granted until their engineers had thoroughly examined the plans and made extensive calculations as to the safety of the device. After much delay, permission was finally granted.

The major part of the Vienna wheel was constructed in England. Transporting the big axle involved some difficulties, for because of its weight it became mired in the soft ground of the park and sixteen horses could not budge it. Finally, a plank road had to be laid for it, to finish the journey.

Ceremonies attended the completion of the wheel, and high public interest was created when the last bolt was placed by Lady Rumbold, wife of the British Ambassador to Vienna. After a successful opening, Basset formed a stock company, but the shares did not sell well and within a few years he was compelled to buy back the small number of shares he had sold, dissolve the company, and continue operation on his own account. During the First World War, operation of the Vienna wheel was suspended and the property was placed in charge of a military guard. It was kept in perfect mechanical condition, however, in case it should prove of military value. In 1917, when the danger of a Russian invasion had passed, its operation was resumed in connection with a war exhibit. Some time before this, however, the *Riesenrad* had been confiscated as enemy property and Basset's heirs came out empty handed.

Maintaining a large pleasure wheel in safe condition is of the first importance, and the Vienna authorities took no chances. They appointed one of their outstanding chief engineers, Herr F. Beck, to carefully and constantly watch over it for any defects that might develop. For forty years this same man kept the wheel in perfect condition by ordering constant repairs and replacement of parts. So devoted was he to his charge that its operation was prohibited even in mild winds. It is said that no large pleasure wheel—or any other amusement device for that matter—ever received so much meticulous care as this engineer bestowed on the *Riesenrad*.

The Vienna wheel enjoyed great prosperity during its early years, carrying 240,000 patrons annually. In the course of time, many publicity stunts were arranged to focus attention on it. Once, a lion tamer with his "cats" performed on the roof of a car while the wheel was in motion. In 1898, a sensation was created by an acrobat, the twenty-year-old Maria Kindl, who made the round trip hanging by her teeth from a rope suspended from one of the cars. In 1902, the noted French equestrienne Madame Solange d'Atalide rode her steed on top of a car while the wheel revolved; and in 1922 the two acrobats Paul and Walter Manning performed their daring handspring act on top of a car at the highest point of the wheel, while George Ercole, of the Pathé News, recorded the stunt with a motion-picture camera. A frequent visitor was an old, asthmatic singer and local character who begged free rides on the *Riesenrad*, claiming that the "thin upper air" was a wonderful relief for his ailment.

The *Riesenrad*, pride of Vienna, survived the First World War, and in 1937 its fortieth anniversary was celebrated. During the Second World War, the wheel was damaged by fire. For a long time after, its blackened steel skeleton stood bare and unsightly in the rubble-strewn Prater. Late reports indicate that the wheel has been restored, and that its fiftieth anniversary was celebrated in 1947, an event attained by no other giant pleasure wheel.

Basset's fourth large wheel was installed in Paris, in 1898. It was similar to the Vienna wheel except that it was larger. It had a diameter of two hundred and forty feet and forty cars, each seating twenty passengers. It became known as *La Grande Roue*, and was a favorite amusement of American soldiers during the First World War. It was scrapped in 1920.

Walter B. Basset was the sole surviving member of an old aristocratic family. His large fortune was dissipated in the various daring enterprises he engaged in. He died in 1907 at his one remaining ancestral castle, in Watermouth, England.

In the past, giant pleasure wheels have been star attractions at world's fairs and exhibitions, where large patronage and high fares made their operation a profitable venture. However, with the exception of the Vienna wheel, none of these giant structures survived for any length of time, due to the high cost of operation and maintenance. Together with the high first cost, these factors have always made the operation of giant wheels unprofitable under normal conditions.

CHAPTER 11

Water Amusement Rides

An authentic story of animals sliding down a slippery incline for fun is related by Archibald Rutledge in a 1943 issue of *Frontiers Magazine* as follows:

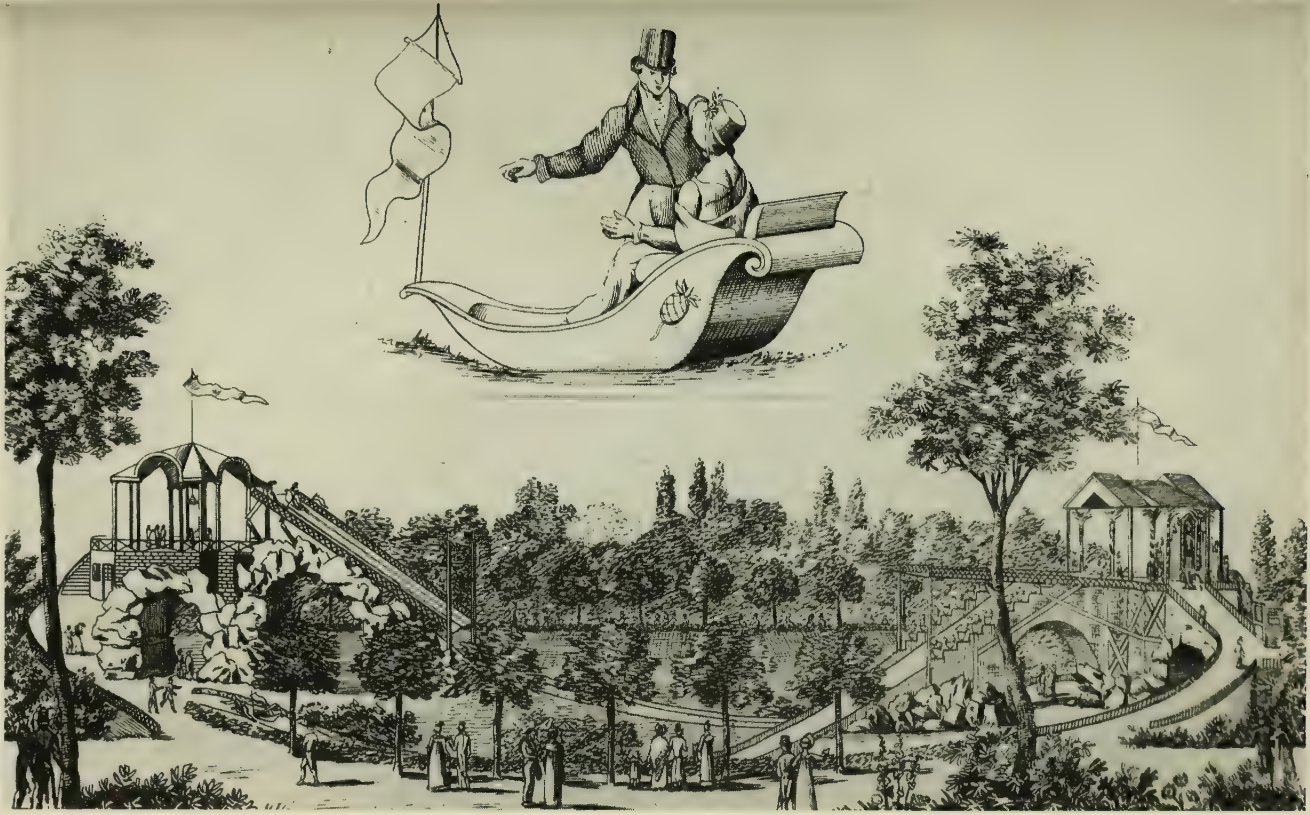
> Late one afternoon at a lagoon I discovered five otters having a sliding match. There were evidently two parents and three half-grown children. Overlooking the lagoon was a bluff about fifteen feet high, with a slope of black mud from its crest to the water. To use this improvised toboggan, each would lie flat on his stomach, give a push with his hind feet and go ripping down the bank. On striking the water they performed all kinds of graceful acrobatics before returning to the shore to slide again. One of the youngsters was smaller than the others, and when his turn came the rest of the family paused in their frolic to see how he would make out.

Whether inspiration for what subsequently became known at amusement parks as the Shoot-the-Chutes can be traced to the animal kingdom's sportive otters will probably always remain a debatable question. But it should be pointed out that, like the otters, small boys who live near rivers have also indulged in the practice, apparently since time immemorial. The connection of this form of simple amusement with a contrived device, however, was left to the French to first exploit.

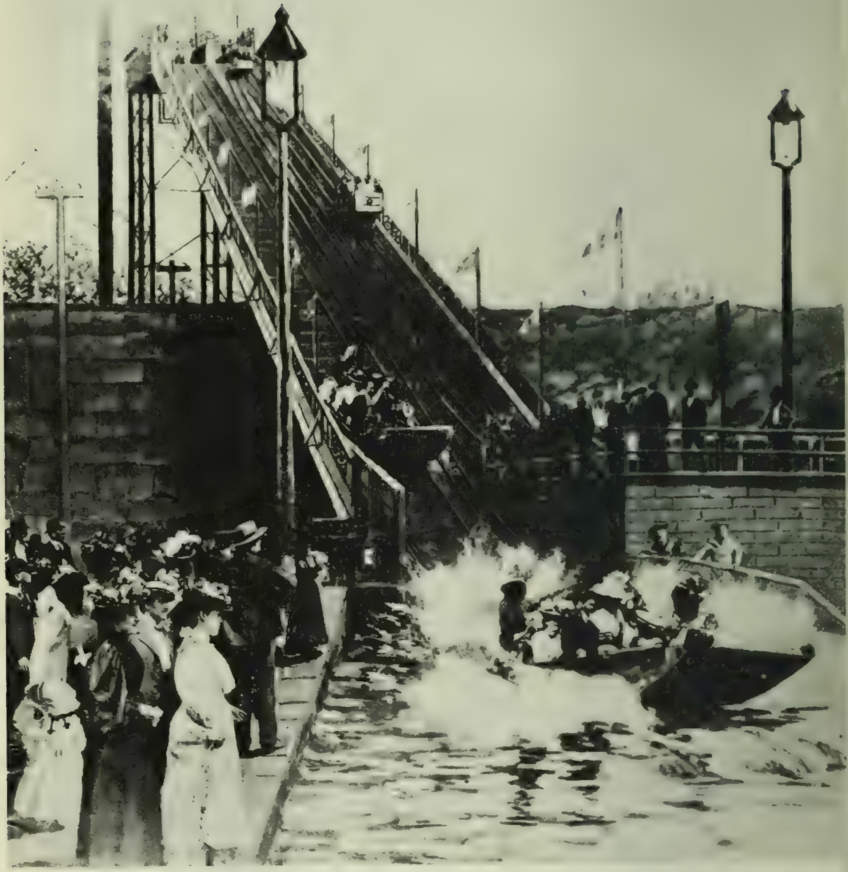
The immediate stimulus was probably the French roller coaster. From this, it was no doubt a logical step for someone to apply the roller-coaster principle to a sliding boat, loaded with passengers, that could be precipitated down a steep incline, by gravity, into a pool of water. A slide of this kind was patented in France in 1817, and installed in the Jardin Ruggieri, the famous Parisian amusement park. It was called the Saut du Niagara and was described as follows:

> The Niagara Jump is a kind of rocking device which raises the boats by means of a lever mechanism to a point where they can receive a new impulse. A gentle slope leads the passengers to the "harbor" where they get into small boats placed on the extremity of a huge rocking device. The mechanism is then set in motion raising the boats higher and higher while the other extremity goes down until it reaches the water. At that moment the platform makes an angle of forty-five degrees with the ground and the passengers are at a height of fifty to sixty feet. Then the boat is unlocked and starts down, covering the distance of two hundred and forty feet in six seconds.

This elaborate device was the earliest large-scale water amusement ride. Its cumbersome mechanism remained virtually unchanged until a greatly improved type was introduced in the United States three quarters of a century later. The first American water amusement ride was invented by John P. Newburg, of Rock Island, Illinois, who installed his device in Watchtower Park, Iowa, in 1889. Prior to its installation, however, Thomas Polk, of Toledo, Ohio, devised a water ride that was tried out in Electric Park, Kansas City, Missouri. Both of these devices were small and attracted little attention. It remained for Paul Boyton, with the aid of Polk, to construct and operate the first large-scale water amusement ride to have both entertainment and revenue-producing value.



Early French Shoot-the-Chutes—Jardin Ruggieri, 1817



Shoot-the-Chutes—1897

Boyton installed the new ride in his Sea Lion Park, Coney Island, in 1889, and named it Shoot-the-Chutes. This new venture proved a great success. The modern Shoot-the-Chutes consists of a long, steep incline with its base terminating in a lake or pool. The specially constructed boat, loaded with passengers, slides down the incline at high speed and at the base bounces onto the water in a spectacular manner. At the lower end of the incline there is a carefully designed upcurve, which precipitates the downrushing boat into the air before it hits the surface of the water, to perform a series of hops and skips, the impacts of which heave the passengers from their seats and thump them down again, producing a thrilling climax for both riders and spectators. After the boat has come to rest, it is guided to a landing where the passengers disembark. It is then pulled up by cable to a small turntable at the top of the incline. In the meantime, another complement of passengers has arrived by elevator to enter the boat. The latter is then tilted forward and the breathless trip begins over again. The popularity of this amusement ride soon became widespread and similar slides are now in operation in pleasure resorts all over the country.

The success of the Shoot-the-Chutes was the incentive that developed other types of water rides. In 1905, S. E. Jackman built a ride that he named Shoot-the-Rapids, a combination of coaster and chute. His boats had wheels and after first rolling through the dips and curves they slid into a pool of water. This ride did not become popular as it lacked sufficient thrill.

Another water ride was developed by the Philadelphia Toboggan Company. In this, the boats first passed through a narrow channel at slow speed, then were drawn to the top of an incline from which they slid rapidly into a pool of water, after which they climbed back to the starting point. It was named the Mill Chute.

A water ride invented in 1891 by Arthur Pickard, of London, scored a great success and has endured down to the present time. This device consists of a narrow and shallow water-filled canal laid out in a serpentine course on level ground. A current is created in the water by motor-driven propellers mounted in the canal course. The current thus produced causes a dozen small boats to drift slowly through the canal. Each boat accommodates two passengers. Pickard named his ride the Canals of Venice and several installations were made in this country.

In 1902, George W. Schofield, of New York, greatly improved this ride by replacing the propellers in the canal by a large paddle wheel, not unlike the old familiar water wheel. This was operated by a motor concealed behind the scenery. It proved very effective in keeping the water in the canal flowing steadily. The big wheel also proved an excellent attraction as it splashed the water over the dam, and for that reason it was placed in full view of the public. Schofield also added dark tunnels with weird scenery calculated to startle the riders in the boats as they slowly drifted by. The dark tunnels also appealed to pleasure-seekers who were romantically inclined. This new ride was first named the Old Mill, but later it became known as the Tunnels of Love, although several other rides also used that name. Schofield organized the Aquarium Company which built and installed his attraction in many amusement centers.

Many other water rides have been invented but few achieved wide popularity. One was a submarine carrousel invented by Hans Pfeifer, of Munich, in 1904. It consisted of a lagoon on the bottom of which a submerged track was built for the submarine to run on. After the passengers had entered the boat, the lid was screwed down tight and the carrousel started. The boat rose and submerged again as it moved over the undulated track, to the supposed thrill and delight of the shut-in passengers. A remarkable feature of this invention was a large empty space beneath the lagoon into which all the water above it could be dumped by electrically operated valves, in case the boat should spring a leak.

A version of Jules Verne's tale was installed by Thompson and Dundy at Luna Park in 1904, and named Twenty Thousand Leagues Under the Sea. The plans called for a concrete basin filled with water in which a fifty-foot submarine would alternately dive and surface. Its submersion was to be accomplished by two large motorized screws attached to the bottom of the boat, which would pull it downward below the surface. During its construction, however, many difficulties developed. Finally, the boat was placed on a firm foundation in the basin and alternately inundated and brought above surface again by changing the water level by pumping. After it was opened to the public, the management made great efforts to popularize the new attraction but patronage was scant and after a short season the project was scrapped.

Submarine pleasure rides have never found much favor with pleasure-seekers. Whatever the form inventors have given their craft as an allurement—whether fish, whale or mermaid—all such amusement rides have failed.

An interesting aquatic carrousel was operated on a lake in Prospect Park, Brooklyn, in 1878. It consisted of a circular pontoon one hundred feet in diameter, which floated on the surface of the water but was fixed by a centerpost to the bottom of the lake. Near its perimeter, the pontoon had nine masts with large sails which on windy days kept it in circular motion around the post. It seated two hundred persons. In practice, the device did not function too well due to the uncertainty of wind propulsion, and it was soon abandoned.

A somewhat similar ride was operated in Riverview Park, Chicago, but instead of a pontoon dependent on the weather, pretty floats in the form of swans, propelled by motors, were employed.

CHAPTER 12

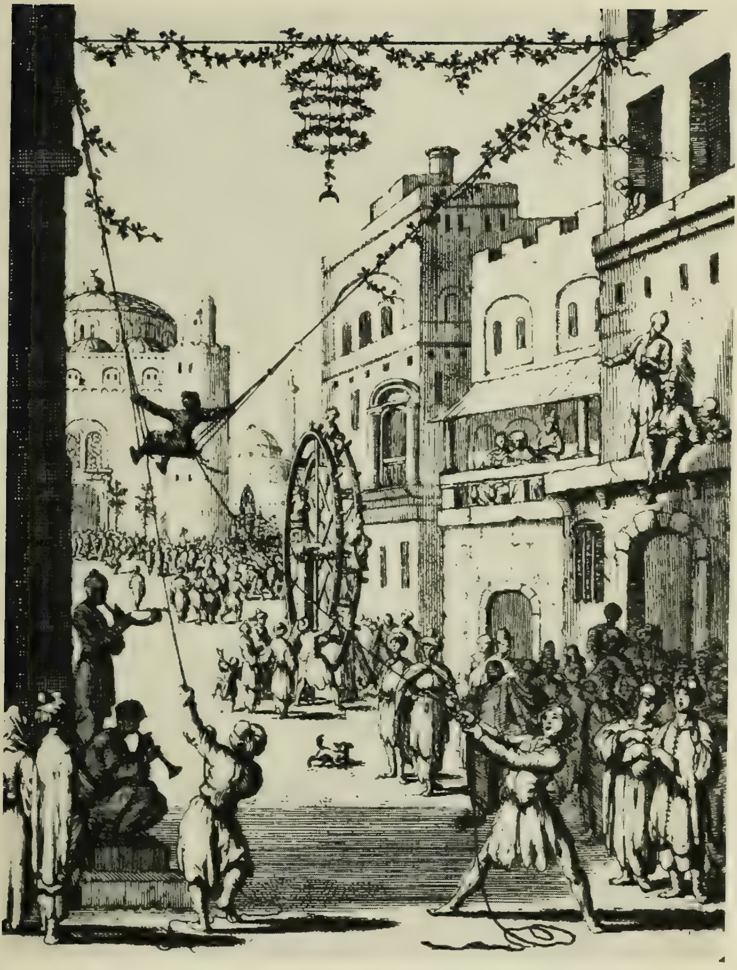
Oscillating and Circle Swings

The familiar oscillating swing is of ancient origin and the granddaddy of all present-day amusement contrivances. The swing is the only recreational device found in the early patent records. In the Kaiser Friederich Museum in Berlin there is a vase on which a swing in action is depicted. The vase dates back to about four hundred years before the Christian era. Swings of many varieties have been invented; even swings with fans to keep the occupant cool, and swings attached to clothes washers, butter churns, and bucksaws so that a housewife could be rocked pleasantly by the same back-and-forth motion that performed her household tasks. Some swings have been operated by wind power, caught in sails. Others have been made in the form of a boat and called boat swings. Steam power was first used to operate swings in 1884, when I. N. Forrester, of Camden, New Jersey, invented the steam swing.

Circle swings date back to the era of the first mechanical carrousel. These pleasure vehicles had seats suspended by chains from a revolving frame which rotated on a central post. They are still in use today in Oriental countries, at festivals and fairs, in the same crude form of their original invention. In this country, this type of swing received much attention from inventors in the nineteenth century and was given various names.

A novel circle swing, and a pioneer in its class, was installed in Coney Island, in 1894, by Charles Braaf. It was rotated by air propellers attached to electric motors. A contract for its construction was made with G. Bungarz, a carrousel builder of Brooklyn. Bungarz was skeptical about the scheme and thought the inventor was mentally unbalanced. To construct the large rotating frame presented no difficulties, nor did the bulky "airships," but the electric equipment was another matter. The eight small motors and a generator were secured with difficulty. In the meantime, Bungarz had set up a small steam engine and boiler to which the generator was attached. Bungarz's woodcarvers then fashioned eight wooden propellers of their own conception and attached them to the motors, which were installed in the airships. When everything was finally ready, the swing was started. To the great disappointment of the inventor, it rotated at a very slow speed. This started the quarrel between Braaf and Bungarz anew. Braaf claimed that the steam boiler was too small for the engine, that the engine was too small for the dynamo, and that the propellers did not scoop enough air. Bungarz's only reply was: "I told you so." The swing was operated for a short time but patrons were few.

The widespread introduction of the modern circle swing is credited to H. E. Traver and R. S. Uzzell, of New York, who installed their first one in Elitch's Garden, in Denver, in 1904. From 1903 to 1907, more than eighty circle swings were erected in various amusement centers throughout the country, ranging in price from $7,000 to $15,000 each. The Traver swing consisted of a high steel tower from the top of which six radial arms extended. From each arm a carriage was suspended by a long steel cable. The device was rotated at high



Turkish Swings—Sixteenth Century

speed by gearing operated by a motor in the tower, which caused the seats to swing out in a wide circle.

Among many others who became interested in amusement swings was Sir Hiram Maxim, noted American-British armament inventor, who patented a circle swing in 1905. It was a large device of costly construction, and was introduced only in very large amusement parks. Dreamland Park, at Coney Island, Willow Grove Park, in Philadelphia, and the amusement center in Blackpool, England, were three of the few places where the Maxim circle swing was erected.

With the development of the airplane, inventors were stirred to devise amusement devices simulating airplane rides. Simple as it may seem, many difficulties have been encountered in the effort. If the machine is safe to operate, it often fails to produce the desired thrill; and if it can produce a thrill it frequently fails to insure safety. During the past several decades, a number of so-called aerial amusement rides have been introduced. How many of these will stand the test of time, it is still too soon to judge.

CHAPTER 13

Flat Rides

A number of present-day amusement devices are operated on a circular undulated track which originated in England, in 1845, and since then has been the foundation of a long list of amusement rides. This form of track is a convenient method of producing a variety of motions and is the basis of numerous patented devices such as the Tunnel Carrousel, Tumble Bug, Rodeo, Tilt-A-Whirl, Lindy Loop, Caterpillar, Whirlaway, Hurdlers, and many others. The original English roundabouts which used this form of track became known as Venetian Gondolas and with their lavish ornamental embellishments became the leading ride attractions at the English fairs. The first machine of this type in this country was brought over in 1906 by Frank C. Bostock and operated at Coney Island and later with carnivals.

A well-known and widely distributed thrill ride is the Whip. Many amusement parks, carnivals and recreational resorts include it among their attractions. This device has also been exported to foreign countries. The Whip is of simple construction, consisting of an oblong platform on which a dozen small cars are operated by a stout cable, which runs in the grooves of two large discs laid flush with the floor and rotated by a motor. Each car is attached to the moving cable by flexible arms, causing them to swing out at the curved ends of the course thus simulating the snap of a whip and producing a thrill in the riders. It was invented by W. F. Mangels, of Coney Island, in 1914. Patents for this device were also granted in several foreign countries, resulting in a considerable amout of royalties for the inventor.

With the development and popularity of the bicycle came the bicycle amusement ride. The first velocipede carrousel was introduced by Savage, of King's Lynn, England, in 1875, and it soon became popular at English fairs. It consisted of a circular frame on which wheels and seats were arranged. The wheels had cranks and pedals and ran in a grooved circular track, laid on the ground. A somewhat similar device was invented in 1882, by Thomas Wyke, of Boston, who named his invention the Flying Velocipede. Others were constructed by attaching regular bicycles to a revolving frame. Although this type became popular, some riders shirked their share of pedaling, and it thus became difficult at times to keep the machine in motion. As a result, steam power was resorted to, and the rides became known as Steam Bicycle Carrousels.

At that period, the long skirts that were the style for women and girls became a source of much trouble in the operation of bicycle carrousels. On many occasions, the skirts of a woman rider would become entangled in the revolving cranks and pedals, and the result was often embarrassing to the unhappy wearer. Attendants became quite expert in untangling a tightly wound portion of skirt from the cranks, so that the temporarily halted entertainment could be resumed.

Another form of bicycle amusement ride consisted of an oval track with guide rails. Bicycles were attached to the rails in such a way that unskilled riders could operate them. When bicycle riding grew to be a common accomplishment, however, these amusement devices became unprofitable to operate.

In the early days of the automobile, everybody had an insatiable craving to ride in one, which was second only to the desire to drive. Inventors met the demand by devising amusement rides which imitated the automobile. Some impatient park operators bought up second-hand horseless buggies, which they operated over enclosed courses in their parks. These rides were much enjoyed by visitors, but the drivers of the buggies had trouble keeping their motors going, which brought forth pointed jibes from the waiting passengers.

In 1906, A. G. Neville introduced a coaster at Coney Island on which imitation automobiles were operated by gravity and steered by a central guide rail. It proved to be a successful attraction for several years.

During the same period, another large-scale automobile amusement ride was operated by Thomas Ryan, in Willow Grove Park. It consisted of two parallel tracks, two thousand feet long, over which electrically driven imitation automobiles were operated at high speed and kept in their course by central guide rails.

In some European countries, amusement promoters established Autodromes, which were nothing more than oval courses on which anyone who paid a fee, skilled or not, was permitted to drive. In the rumble seat of each car rode a chauffeur, who was ever on guard to help prevent the collisions that were to be expected under the circumstances. The chauffeur had access to secret levers, unknown to the driver, who would pride himself on his skill in escaping by a hair's breadth from a possible accident—and, elated, pay for another ride.

Several amusement devices employing automobiles have sought to thrill riders by subjecting them to controlled collisions or by simulating narrow escapes from accident. In most of these, the automobiles ran on tracks which crisscrossed at one or more points, the intersections being the danger spots at which two automobiles did or did not quite collide, depending on the thrill objective of the device. These attractions were generally known as crisscross rides.

One, devised by R. C. Rehm, and known as the Cuddle-Up, consisted of a number of circular cars operating over a serpentine course. The cars were controlled by a series of revolving discs.

Perhaps the most ambitious of the crisscross amusement rides—certainly, the most complicated—was invented, in 1912, by A. G. Reynolds, who first experimented with it at Ocean City, California. The following year he installed it at Coney Island and called it the Auto Maze.

Reynolds set up his amusement ride in a covered space one hundred and seventy-five feet long by one hundred and fifty feet wide. In this area, two tracks were laid in such a way that they crossed and recrossed at short distances. Twenty automobiles, ten on each track, were employed, all completely equipped but without motors. The cars, which traveled at a speed of five miles an hour, were propelled along the tracks by two moving chains which operated in a slotted conduit. By an ingenious mechanism, the moving chains caused one car to cross in front of another, missing a collision by inches, every ten seconds, which kept the riders constantly excited and recurrently thrilled at every danger point.

To add to the fun, the entire course was enclosed by large plate-glass mirrors, eight feet high, which reflected the moving automobiles from hundreds of different angles, thus increasing apprehension through confusion and bewilderment.

The device, however, didn't work smoothly. The crossover chain mechanism frequently failed to function properly and real collisions took place, but although passengers were jolted and sometimes slightly injured the low speed of the cars prevented the occurence of any serious accident. The device was operated intermittently for several weeks, interspersed with periods of overhauling and further experimentation in an attempt to perfect the mechanism, but it was finally abandoned.

For over a quarter of a century amusement-seekers have enjoyed the thrill of operating small electric cars in a special enclosure, by speeding, bumping, and careening in one grand mixup. These devices are known as the Dodgem and the

Skooter. In the early days of their development they led to much controversy on the part of their promoters. In 1890, James Adair, of New York, patented a new amusement device which consisted of an electrically propelled vehicle to be operated in an enclosure having a metal floor and electrically charged ceiling, and capable of being steered in all directions by the rider. This invention embodied the basic idea of the two rides named above, but there is no record that Adair even put his invention into practice.

In 1918, John J. Stock, of New York, conceived a new amusement device which consisted of a round car operated in an enclosure by electric motors and storage batteries, or on a metal floor and through contact with a charged ceiling. Stock worked in a small shop in New York City, developing his invention. Before long, the not unusual ailment of struggling inventors overtook him, namely, lack of funds to carry on. Then, unexpectedly, a showman of wide renown dropped in to see him. He was J. J. Jones of carnival company fame. Jones became immediately interested in the invention. He claimed that he had the greatest traveling exposition in the outdoor amusement world and always featured the latest attractions. Stock agreed that such was the case, and that the first example of his new ride should go with the J. J. Jones show.

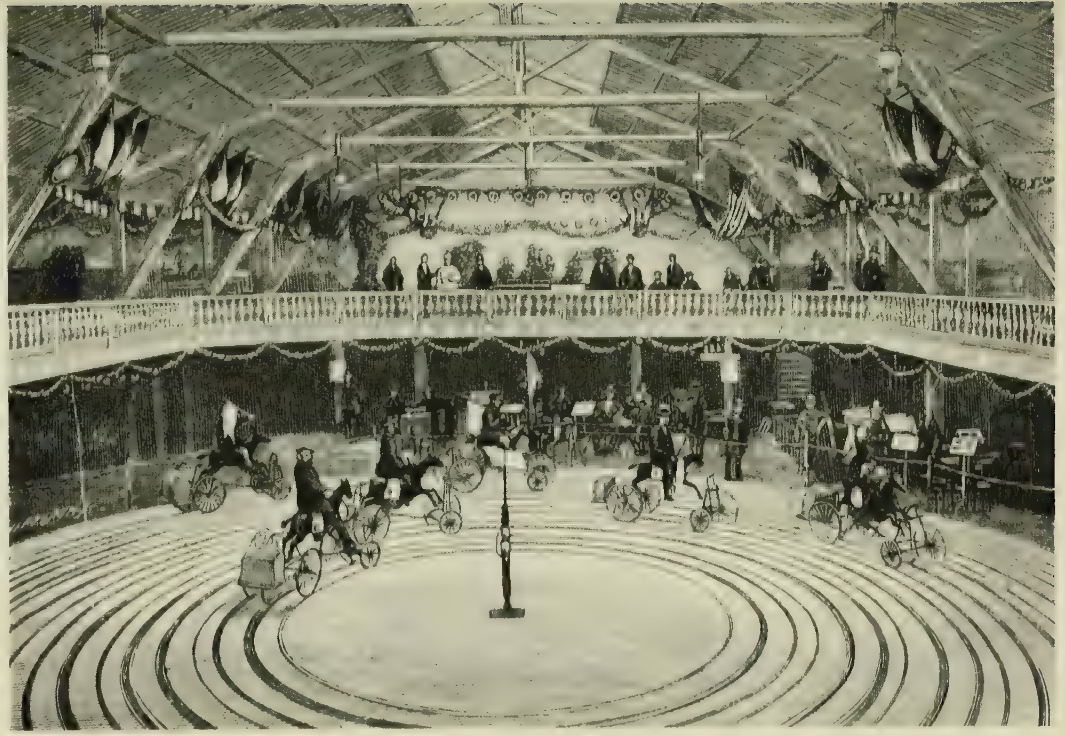
When it came to details there were differences of opinion between the two men. Jones objected to the metal ceiling over the ride, regarding it as too cumbersome to handle. He suggested a large car seating fifteen persons. Stock pleaded for a smaller car. Finally it was agreed to construct two cars each seating ten passengers, and operated by electric motors and storage batteries. The total price was to be $8,500, and Jones made a substantial down payment.

This fortunate turn of events greatly encouraged Stock and he proceeded with the construction of the two cars. When completed, they were shipped to Torrington, Connecticut, where the Jones show was to play. In the meantime, a wide platform on which the new cars were to operate had been constructed. When the cars arrived and were placed on the platform consternation reigned. The wheels of the heavy cars simply crushed through the thin floor and stuck. Each car was ten feet in diameter and with its three motors and large batteries it weighed more than three thousand pounds. A stronger platform was hastily constructed and the following day, when all was ready, the cars were placed in position, each in charge of a motorman. Then with a short ceremony the ride was chistened Glideabout. After several trips it was evident that the sluggishly moving cars gave the riders no thrill and within a few hours the new ride was pronounced a failure.

Inventor Stock was not discouraged at the unhappy outcome and immediately planned a smaller car which would seat four persons and could be steered by the riders. The storage batteries were eliminated and Stock again experimented with the metal floor and charged ceiling, using mosquito netting overhead for that purpose. Stock claimed that he had no knowledge of the early Adair patent in 1890.

During the following winter, another inventor appeared on the scene with a similar device. He was Max Stoehrer, of Methuen, Massachusetts, who laid claim to the invention. Litigation followed. Both inventors had filed patent application. In the subsequent proceedings it developed that Stoehrer and his son Harold had installed their first ride at Salisbury Beach, Massachusetts, and named it Dodgem. Together with Ralph Pratt they organized the Stoehrer and Pratt Dodgem Corporation, and a vigorous campaign for the introduction of their ride followed.

John Stock meanwhile had also developed his invention and now named it the Gadabout. His first installation was at Electric Park, Kansas City, Missouri. Others were installed at Coney Island, Revere Beach, Detroit, and Long Beach. The Dodgem Corporation also made a number of installations of its ride, as its device had become a favored amusement attraction. In 1923, it was announced that all the patent rights of J. J. Stock had been acquired by the Dodgem Corporation,



Mechanical Electric Race Course--Nice, France, 1889

that all infringement proceedings had been discontinued, and that the Gadabout had been eliminated.

It subsequently developed that Stock had an agreement with Lusse Brothers, a firm of machinists in Philadelphia, to produce his Gadabout cars. When there was no longer any demand for them Lusse Brothers proceeded to develop a car of their own and named it the Skooter. This became a competitor of the Dodgem and patent litigation followed. In the meantime, both rides had become very popular with the public and numerous installations were made. In the course of time, the claims of the two rival companies were adjusted and their rides have since been outstanding resort amusements.

John J. Stock meanwhile had retired to his little shop to work on a photograph machine invention. He died in New York City, in 1945, in poverty.

A ride that created a flurry for a while in the outdoor amusement world was the Tickler, installed by W. F. Mangels in Luna Park, in 1906. It became known as the first amusement ride especially designed to jostle, jolt and jounce its riders about in their seats while the cars were in motion. The inventor had prepared a picture of the new ride and took it to Luna Park to file application for a concession. Frederick Thompson, then the manager, took the picture, held it at arm's length, and gazed at it a minute. Then, in his brusque manner, he said, "You will need barrels to take away your money. Come in tomorrow morning for your contract." The contract specified that twenty per cent of the gross receipts should go to the park.

The Tickler consisted of a wide, inclined platform, sloping upward from the entrance. On this platform a sinuous course was fixed by posts and rails, and through it a number of circular cars were operated. They were mounted on swivel caster wheels and had large rubber bumping rings on the exterior. The operation was simple. After the passengers had been seated, the cars were drawn up the incline by a chain conveyor. At the top, they entered the downward course and by gravity careened, bumped and whirled back to the terminal, tossing the passengers violently about in their seats. At the end of the journey, the five passengers were usually scrambled together so hopelessly that attendants had to help them to disembark.

This new ride had cost $6,000 to install. It enjoyed heavy patronage from the start, grossing $42,000 the first season plus a substantial sum from royalties. Although the theory of the promoter seemed sound, within a few seasons the novelty wore off and business declined.

In a humorous article written by P. G. Wodehouse, and widely syndicated, he expressed his opinion of the Tickler as follows:

> The principle at the bottom of Coney Island's success is the eminently sound one that what would be a brutal assault, if administered gratis, becomes a rollicking pleasure when charged for at the rate of fifteen cents per assault. Suppose one laid hand upon you and put you in a large tub; suppose he then proceeded to send the tub spinning down an incline so arranged that at intervals of a few feet it spun around and violently bumped into something. Next day he would hear from your lawyer. But in Coney Island you jump into the Tickler and enjoy it; you have to enjoy it because you have paid good money to do so. Being in America, Coney Island is thought a little vulgar; if it were in France we would have written how essentially refined the Tickler and the Human Roulette Wheel were, and with what abundance and polish the French people took its pleasure.

One cartoonist of that period depicted the Tickler taking some unworthy politicians for a ride, and another introduced it into his comic strip as a means of escape for his character, Desperate Desmond.

A gravity slide called Helter Skelter, which Frederick Thompson claimed as his invention, became popular for a while at Luna Park. It consisted of a narrow chute down which a person could slide in a sitting position. The chute started at a high point and took a precipitous, twisting course down the incline. Its interior was lined with smooth rattan or polished hard wood. The fun-seeekers ascended a flight of stairs to the starting point and, seated on a small mat, took off, sliding down at high speed. At the bottom they landed on a soft mattress which eased the impact. In their frantic efforts to keep their balance, they performed antics that highly amused the spectators.

Greatly popular at some resorts are the attractions known as Dark Rides. In these, passenger-carrying vehicles, which may be boats, cars, or small trains, pass through dark tunnels or closed-in passages at a very slow speed. Along the way, surprise scenes such as mechanical ghosts, flirting devils, and similar devices pop out to scare or amuse the slowly passing riders. These devices bear various names. The well-known Tunnel of Love is typical.

Numerous attempts have been made by inventors to develop a mechanical race course that would in some degree simulate a real horse race as an amusement device. The usual pattern consists of a group of hobbyhorses mounted on wheels and propelled electrically on tracks laid over an oval course. The speed of the horses, more or less, is controlled by the riders. Early attempts to produce this device were made by Shafhirt, in 1894, Brown, in 1903, May, in 1908, Ricks, in 1912, and Illions, in 1920, but none have survived. One of the earliest mechanical race courses was operated in Nice, France, in 1892, by M. Salle and consisted of a series of circular tracks arranged in a large building. The half-natural-size hobbyhorses were mounted on light wheels to which electric motors were attached. Current was led to the motors from a third rail laid in a conduit. The operation was as follows: After the riders had mounted the horses, the electric circuit was closed and all the horses started at once, taking relative speeds that were in proportion to the various diameters of the tracks, the rate being fourteen feet per second. The speed of each horse could also be regulated at will by means of a rheostat manipulated by an attendant, who stood concealed from the audience. While betting on the horses was encouraged by the management, it never attained the prolonged excitement that a real horse race creates.

Another amusement ride devised to imitate a horse race was the Steeplechase, invented by J. W. Cawdry, of London, England, in 1894, and assigned to George C. Tilyou, of Coney Island, who fully developed it as the Steeplechase race course, the nucleus of Steeplechase Park. It consists of a series of parallel tracks, three feet in height, on which large wooden horses, mounted on rollers, move over the course by gravity. Each horse has two saddles, one behind the other. A young lady may thus ride in the front saddle, holding the reins, while her escort rides in the rear, holding his arm tightly around her waist to keep her in proper balance.

For each race, four horses are lined up at the starting point. Then the attendant releases a trigger and the race is on. It must not be assumed that a real race is developed; the difference in weight of the riders and the mechanical element prohibit this, but a spirited ride is enjoyed nevertheless.

It might be thought that patrons would enjoy participating in the operation of amusement devices, but experience has proved this a fallacy. It is true that present-day amusement-seekers delight in steering or manipulating the controls of electrically operated devices, but they cannot be depended on to furnish the motive power by their own exertion. A race course involving this principle was installed on a long pier in Dreamland Park, in 1909, by the Pleasure Boat Company. It consisted of two parallel tracks on which imitation boats were operated. In front of each seat in the boats were levers which, when rocked back and forth by the riders, propelled the boats forward. The crew that worked the hardest won the race. In theory this was fine, but in practice it soon developed that a boatload of pleasure-seekers, accidentally coming together for the first time, cannot be depended on for the teamwork expected of a trained crew, and the races usually fizzled.

A perennial source of delight to small children at amusement parks is the miniature railway. Miniature trains first attracted attention at the Philadelphia Centennial Exhibition, in 1876. At that fair, fourteen miniature steam trains were operated, providing transportation for the visitors through the extensive grounds.

The widespread introduction of diminutive steam locomotives and trains for pleasure resorts was due to T. G. Cagney, of East Orange, New Jersey, who began operating small engines at amusement parks in 1892. His engine was a close copy in miniature of the famous "999" and carried a steam pressure of ninety pounds. The several models had a track gauge of fifteen to twenty-four inches and were fired by either coal or coke. A train consisted of engine, tender, and four or five small cars, each seating from eight to ten children. Up to 1930, more than twelve-hundred Cagney locomotives had been produced and put in operation in all parts of the world, some of them in royal courts. Gold medals were awarded this little engine at the St. Louis World's Fair and other expositions.

One of the early successful flat rides was the Witching Waves, invented by Theophilus Van Kennel, of New York, and first installed in Luna Park in 1907. The large oval course over which this device operated had a flexible metal floor, and by ingenious arrangement of reciprocating levers beneath the floor a wavelike motion was imparted to it. One wave followed another in continuous undulation yet no part of the floor moved forward. It fascinated many onlookers. On this undulating floor small cars seating two passengers were operated. The cars were moved forward over the course by the action of the waves and steered by the riders. This new attraction rapidly became very popular and similar ones were installed in many other amusement centers.

CHAPTER 14

Observation and Parachute Towers

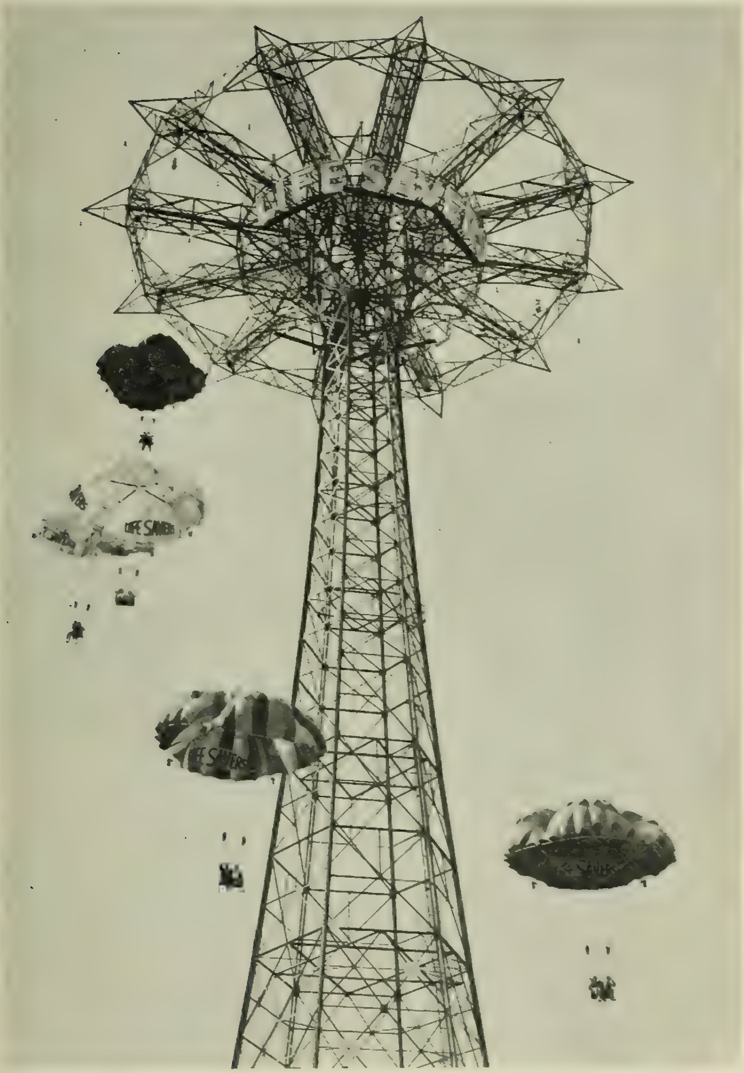
Observation towers especially erected for the entertainment of the public became popular during the early nineties and quite a number of them were operated in various amusement centers. The ascent to the observation platform was usually by stairs, but some of the towers were equipped with steam elevators which carried the sightseers up and down again. The height of the observation towers seemed impressive to visitors in those days, but the erection of modern city skyscrapers has since dwarfed them into oblivion.

Two American engineers, Clark and Reeves, in 1874, conceived the idea of a one-thousand-foot tower as a leading feature of the Philadelphia Centennial Exhibition, but their project was shelved due to the timidity of the fair commission. The plans were modified and the result was an iron tower, three hundred feet high, equipped with two steam elevators. It was erected adjacent to the exposition grounds and became known as the Sawyer Tower. After the fair closed, it was moved to Coney Island and put up in Culver's Plaza, where it was heavily patronized. It was destroyed in the great Dreamland Park fire, in 1911.

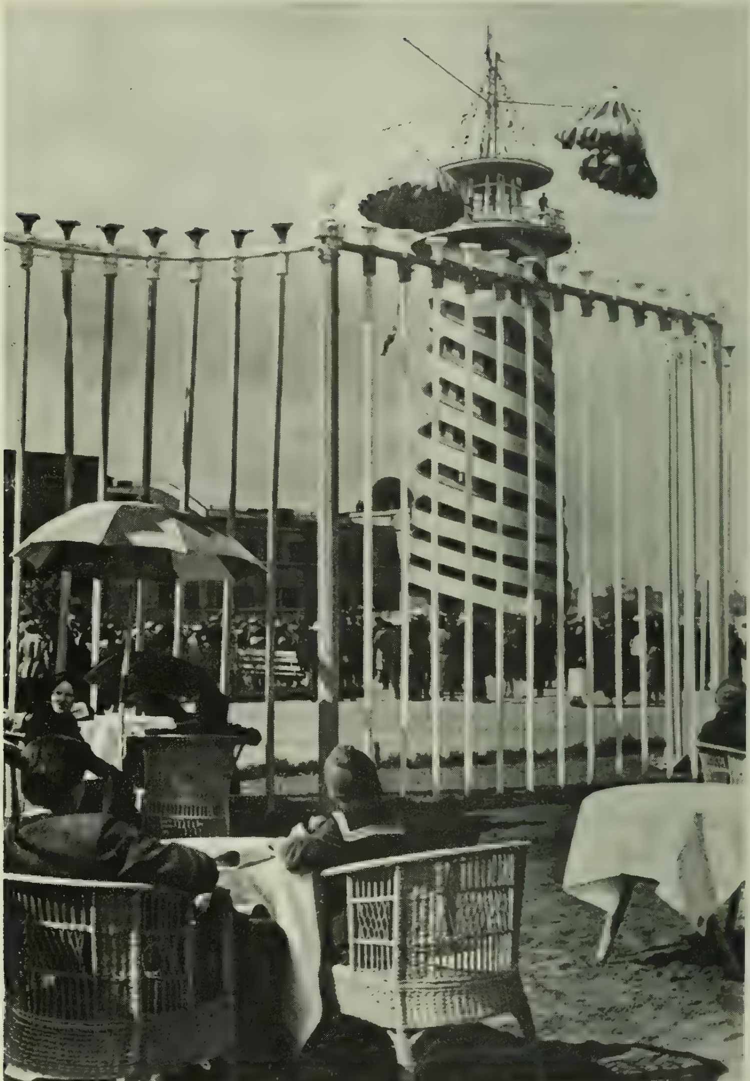
The most widely known observation tower is the Eiffel Tower, in Paris. In 1886, Gustave Eiffel, a prominent French engineer, proposed to construct a metallic tower five hundred meters high, as a feature of the 1889 Paris World's Fair. M. Eiffel's proposal met with considerable opposition. It was prophesied by artists and intellectuals that the proposed skyscraper—the world's first—would be a Tower of Babel, a dirty stain on the sky, and a dishonor to Paris. M. Eiffel supported his argument by citing the proposal of the two American engineeers at the Philadelphia Centennial, and found it persuasive. Finally, a concession was granted and a subsidy of 1,000,000 francs provided, on condition that the tower should revert to the city at the end of twenty years.

Construction proceeded rapidly, and in March, 1889, the French flag was hoisted over the highest structure ever erected by man up to that time. The tower, nine hundred and eighty-five feet high, became one of the leading features of the Paris World's Fair and for years has been a point of interest to all tourists.

Another type of observation tower was hinged at the base, with a cage or cabin at the apex. These towers could be inclined until the cage touched a ground platform, from which sightseers entered, and then raised by a mechanical device until it stood straight up in the air. One tower of this type was the Aeroscope which was installed at the San Francisco Exposition, in 1915. Its massive steel arm was two hundred and thirty-nine feet long, counterweighted by threee hundred tons of concrete and steel. It was swiveled on trunnions, as a large cannon is, on a steel structure forty-eight feet high. The tip of the huge arm carried a cage which accommodated one hundred and twenty passengers. In operation, the giant arm would incline until the cage touched the ground platform, from which passengers embarked. As they entered the cage, an electrically controlled water tank restored an even bal-



Controlled Parachute Jump—New York World's Fair, 1939



Controlled Parachute Jump—Gorki Park, Moscow, 1936 ance, irrespective of the number of passengers. With the arm so nearly in equilibrium, it required only a little power to elevate it and carry the passengers to a height of two hundred and sixty-five feet. When the maximum height had been reached, the arm was rotated on its base, affording the passengers a view of the surrounding country.

The whole device weighed seven hundred tons, and its bulky steel skeleton bore little resemblance to an amusement device, but it was extremely popular. The tower was invented by J. B. Strauss and was built by the Bascule Bridge Company, of Chicago.

Towers that conform to the modern temper are those from which parachute jumps are simulated for public amusement. These structures usually consist of a strong circular steel framework two hundred and fifty feet high, which is securely anchored in a massive concrete foundation. From the top of the tower, radial arms extend outward and are connected with the ground in a vertical line by light steel cables. The operation is as follows: After the passenger has been securely strapped in the seat, which is suspended below the parachute, the latter is drawn by motor and cable to the top of the tower; from which point it is automatically released, being guided in its descent by the vertical cables. Near the ground the speed is checked by mechanical means.

The first parachute tower to be operated for amusement was opened in Riverview Park, Chicago, in 1937. An old observation tower was converted to this purpose. Another and more elaborate parachute tower was operated by the Safe Parachute Jump Company, in the amusement zone of the New York World's Fair, during 1939 and 1940. After the fair was over it was moved to Steeplechase Park, Coney Island. In operation, parachute towers offer a thrilling sight as the chutes descend in rapid succession.

Perhaps in no other country are parachute towers more popular than Russia, according to the American-Russian Institute. Before the war, parachute towers in cities, towns and on collective farms multiplied rapidly and became highly popular. In Gorky Park, Moscow, a large parachute tower is in constant use by young men and women who want to practice parachute jumping. In the Far East, on a collective farm, farmers have built a parachute tower and enjoy jumping practice. In the new city Yomsomolke, on the Amur River, the young sports have built a parachute tower forty-eight meters high, on which they practice. Another tower, in Tulsa, is in use by men and women who practice jumping.

All Russian towers are built of wood and differ widely from the American type. In the latter, the jumper together with the parachute is drawn from the ground to the top of the tower by a motor, and is automatically released, depending on air resistance to slow the descent. The Russian towers have no motors and the jumper must climb stairs to reach the top of the tower. There he takes the seat attached to a parachute and jumps into space, the descent being more or less controlled by a slender cable secured to the top of the chute and to a counterweight which slides up and down in the tower. When the jumper is released, after landing, the chute is drawn to the top of the tower by the counterweight, ready for the next jumper. In the descent, the chute is given a whirling motion by the swinging arm from which it is launched at the top.

It is possible that this enthusiasm for parachute jumping in Russia, may have a military background in the guise of popular recreation.

CHAPTER 15

World's Fairs

Recreation has been an adjunct to annual fairs and festivals in all countries for centuries, but elaborate amusement zones or midways as an integral part of world's fairs are of comparatively recent origin. As they grew in importance, they exerted considerable influence on the outdoor amusement industry.

One of the earlier world's fairs which stimulated amusement promoters to activity was the Crystal Palace exhibition held in London, in 1851. The entire civilized world was invited by the British Government to participate in this huge show, the most stupendous exhibition ever attempted up to that time. There was no amusement zone or midway on the exhibition grounds but great activity developed in the city; new amusement enterprises sprang up daily and old ones revived. Catlin's Indian Exhibit, the Geographic Panorama, Jerusalem, Great Tours of Europe, the Overland Route to India, the Dardanelles and a Clear View of Constantinople;

all could be seen for one shilling. Of great interest in the Exhibition Hall were Newton and Sons' Planetarium, a model of Niagara Falls, and a great organ, with 77 stops and 4,474 pipes, and equipped with the Parker pneumatic valve, now in universal use. A number of freak exhibits were present; the Man of Steel could be extended from Apollo Belvidere to Goliath. A machine for "drawing the cork" was in evidence; also a pocketknife with five hundred blades. The semibreve guitar could be tuned in twenty keys. Then there was the Tonnerphone, an instrument of small size and tremendous compass, the sonority of which completely filled the vast edifice.

The road to the Crystal Palace became an extraordinary scene. From every public house large flags were flying. Along the footpaths stood hawkers with barrows of nuts, baskets of oranges, and the omnipresent ginger beer. The general feeling was a combination of confusion and amazement.

The total attendance at the exhibition was 6,039,000, and the total receipts were $2,120,000.

The first great exhibition in this country was the Centennial Exposition, held in 1876 in Fairmount Park, Philadelphia. It was of a scope and splendor unapproached by any previous world's fair.

The Centennial Exposition had no amusement zone or midway, as became the practice at later world's fairs, but a great collection of shows and entertainments found space surrounding Fairmount Park. On Elm Avenue, for nearly a mile, was a line of restaurants, small hotels, saloons, beer gardens and side shows. Gathered around Girard and Columbia avenues were the "carriage repositories," which were long sheds divided into stalls for the accommodation of carriages and horses. Toward Belmont Avenue stood a museum in which was exhibited the Wild Man of Borneo, the Fat Woman, weighing 602 pounds, the Fiji man-eaters, and other freaks. Nearby stood a Pennsylvania oil well; admission twenty-five cents. Farther on, in an open space, were the small merchants, peanut stands, pie stalls, roasted sausage counters, dealers in cakes and lemonade, and the inevitable balloon man. The tall Sawyer Observatory, equipped with steam elevators, overlooked Belmont Avenue. Globe Avenue was distinguished by a magnificent soda-water fountain, equipped with seventy-six syrup tubes, its marble façade brightened by silver trim rising forty feet above the sidewalk.

An interesting feature was an Indian encampment, with three hundred Indians from fifty tribes, in charge of George Anderson, the famous Texas scout. No carriages were allowed in the extensive exhibition grounds. For the convenience of the visitors, a double-track, miniature railroad, four miles in length and equipped with ten miniature locomotives and forty cars, ran through the grounds. The trains moved along at the slow speed of eight miles an hour, to give passengers ample time to comprehend what they saw. The fare was five cents.

The Centennial Exhibition was open to the public for one hundred and seventy-nine days. The total admissions were 9,815,000, and the total receipts, $3,814,000.

The various concessions sold for the following sums:

Printing Official Catalogues	$100,000
Narrow Gauge Railway	20,000
French Restaurant	6,000
German Restaurant	6,000
Royalty on Beer ($3 per barrel)	50,000
Cigars and Tobacco	18,000
Soda Water	52,000
Popcorn	7,000
Public Comfort	16,000
Other Privileges	136,000

The following condensed list shows the gross receipts of outstanding amusement concessions at leading American world's fairs:

LOUISIANA PURCHASE EXPOSITION
ST. LOUIS, MO.
1904

Concession	*Gross Receipts*	*Percentage Paid*
Streets of Cairo	$219,801	$22,506
Scenic Railway	137,172	31,292
Old St. Louis	102,873	28,544
Under and Over Sea	86,332	29,991
Galveston Flood	197,898	25,216
Irish Village	439,234	76,542
Hale Fire Fighting	326,994	53,698
Creation	437,747	68,475
Miniature Railway	43,410	10,179
Tyrolean Alps	1,085,004	254,126
Gay Paree	230,515	56,367
Hagenbeck Animal Show	339,001	73,123
Ferris Wheel	257,156	50,753
Boer War	631,776	112,942
Water Chutes	100,802	31,746
Trip to North Pole	265,776	54,526
Wild West Show	61,599	12,338

CENTURY OF PROGRESS
CHICAGO, ILL.
1933

Concession	*Gross Receipts*	*Percentage Paid*
Midget Village	$229,821	$31,068
Battle of Gettysburg	67,765	8,857
Freak Show	59,417	10,599
Frozen Custard	180,799	36,006
Old Heidelberg	1,032,280	80,120
Doughnut Shop	256,142	24,285
Roller Coaster	173,338	36,834
Flying Turns Coaster	166,349	24,527
Guess Your Weight Scales	168,821	42,430
Shooting Galleries	38,194	4,819
Air Tommy Guns	2,367	591
Streets of Paris	829,022	120,157
Belgian Village	650,361	97,554
Ripley's Believe It or Not	550,157	72,182
Skooter	83,568	17,892
Miniature Railway	57,980	......
Roller Chairs	254,771	82,342

1934

Old Heidelberg	772,800	104,801
Sandwich Stands	702,733	50,766
Guess Your Weight Scales	194,146	68,951
Shooting Gallery	17,262	5,065
Cyclone Coaster	75,420	13,313
Flying Turns Coaster	101,627	37,406
Skooter	41,420	11,461
Miniature Railway	37,900	1,000
Bug Ride	11,626	3,406
Black Forest Village	437,063	110,701
Infant Incubator	100,058	28,017
Irish Village	62,528	20,632
Midget Village	215,065	57,782
The Bowery	169,206	42,770
Rocket Ride	12,753	3,938
Carrousel	16,942	5,233
Lion Motor Drome	29,372	8,093
World in Miniature	26,423	9,748

NEW YORK WORLD'S FAIR

1939

Concession	*Gross Receipts*
Aquacade	$2,725,382
Hot Mikado	319,000
Jungle Land	261,756
Infant Incubator	65,107
Old New York	322,450
Merry England	285,611
Parachute Jump	218,354
Giant Coaster	141,192
Bobsled Coaster	126,140
Dodgem	79,476
Aerial Joy Ride	64,387
Silver Streak	15,150
Boomerang	10,273
Whip	19,271
Shooting Galleries	116,718
Air Machine Guns	4,756
Penny Arcade	40,449
Exposition Souvenirs	911,270
Childs Co., Frankfurters	1,994,191
Popcorn	181,729

1940

Aquacade	$1,592,234
Streets of Paris	308,338
Railroads on Parade	266,180
Ripley Odditorium	98,043
Infant Incubator	48,233
Parachute Jump	139,896
Cyclone Coaster	116,824
Bobsled Coaster	85,689
Dodgem	78,272
Aerial Joy Ride	48,829
Carrousel	32,459
Flying Skooter	22,620
Triple Ferris Wheels	20,329
Whip	20,029
Shooting Galleries	82,740
Penny Arcade	111,821
Childs Co., Frankfurters	1,186,573
Popcorn and Caramels	178,919
Exposition Souvenirs	799,362

In *The Story of the Exhibition,* Frank Morton Todd relates some interesting phases of the Panama-Pacific Exposition of 1915. Publicity had carried the news of the coming event around the world and persons who follow such mammoth shows turned their attention to the Golden Gate. They presented for consideration all sorts of strange and startling projects; some with merit, some with none. Would the public be interested in a hollow steel sphere in which a man had rolled himself to San Francisco from New Jersey? Wouldn't the phrenometer be a highly magnetic attraction? How large a percentage would be paid for the Infant Incubator? How much would a Natatorium be worth, with real diving girls?

One man wanted to build a cable railway across the Golden Gate. Even Doctor Cook was willing to illustrate, for mere money, his "conquest" of the North Pole. Rejected. Another explorer offered to exhibit red-headed cannibals if he were given time enough to round them up. Somebody else wanted to bring over the galley of Trajan or Tiberius for show purposes. Two old ladies wanted to advertise the exhibition by walking across the continent. Other people offered to drive ox teams or elk teams from coast to coast. One man offered to incinerate the exhibition's garbage by means of a burning glass mounted on the Tower of Jewels, as Archimedes had destroyed the ships of Marcellus, the Roman consul, before besieged Syracuse.

The real sore spot of the amusement zone was the '49 Camp. It seemed to be just what the money-spending part of the public wanted, but it conflicted with certain standards of propriety which Exhibition officials had to uphold, and one could often figuratively hear the iron clangor of the lid being slammed down on it. The Camp had a restaurant and bar, a Jimtown dance hall, and other amusements representative of the gold seekers' conception of fun. It was said that gambling went on behind its door. The historian does not know. Certainly, if gambling had not gone on there, it failed to represent any real camp of the forty-niners in California.

The Zone had some great spielers, who were sure-fire with a greater percentage of their crowds. There was Rhodes, who opened with the 101 Ranch, went to Filmland, and later to the Alligator Farm. He was a lame man, and walked with the aid of crutches. He had a beautiful, ringing voice. His ballyhoo was never a repetition of catchphrases. At the Alligator Farm he could make you feel that without an intimate acquaintance with alligators you were unfit for good society. He was capable of turning fifty per cent of his audience into the show.

Fisher spieled at the Autodrome and his descriptions thrilled his listeners. He pleaded with them not to look at the spectacle unless they were well and strong. His method was strenuous. At the psychological moment he would snatch off his big sombrero and beat his audience in with it as if they were flies.

Then there were the Calliett brothers, Floyd and Jack, and Harry La Brecque, and Duck Lee, and many others of the first rank. But the joy of the lot was King Karlo, of the

Tehuantepec Village. He was a flat-headed Indian from Oklahoma. Karlo was gifted with strongly molded features, a friendly, confidential manner, and a most convincing kind of eloquence. He dressed his part; his peaked sombrero had a brim as wide as a door. His diction was good, his pronunciation precise, and his voice soft, low and winning. You gazed in fascination at his strong white teeth and his friendly eyes. You felt, in fact, very friendly toward him for telling you about the things inside, and in you went.

CHAPTER 16

Fun Houses and Illusion Rides

Fun houses have been a conspicuous part of the outdoor amusement industry only since the early nineteen-hundreds. They consist of an aggregation of mechanical, laughter-provoking devices arranged in a suitable enclosure, and cunningly constructed to surprise, jolt, skid, disconcert, or otherwise mildly abuse or amuse the unsuspecting visitors, who pay an admission to wander through the collection.

One of the outstanding fun houses is known as Noah's Ark, an imaginative reconstruction of the ark built by Noah of biblical history. This structure is set up on a large artificial rock, and visitors climb stairs to reach its deck. It is built like a boat with a weather-beaten deck and moss-covered deck-house. From various windows project the heads of dummy animals, which are mechanically animated in lifelike manner. Within the Ark are numerous fun devices to amuse the visitors.

Leroy Raymond, of Ocean Beach, California, who invented this fun house in 1917, together with W. H. Dentzel and

Arnold Neble organized the Noah's Ark Corporation. This concern has erected its fun houses at many amusement locations. Raymond has also originated several other similar entertainments. In one, called the City Jail, amusement-seekers lock themselves in, and then attempt to get out again.

In the fun house known as The Pit, the interior is laid out in a bewildering maze of walks and courses. Along these corkscrew paths mechanical trick devices are arranged in a manner to send visitors into screams of laughter. Once one has entered, there is no retreat, no way to turn back; he must go through with it. The attempt by some timid visitor to back out or evade the various traps causes additional merriment to those who have passed through already.

A fun house called the Katzenjammer Castle became popular about twenty-five years ago. Its fun-provoking included the Dump the Dump, Swing the Swing, Shift the Shift, and others of like nature. The inventor, J. J. Stock, placed a sign in front of his attraction which read: "If you can't laugh, you must be sick."

A fun house that harbors a collection of thrills which swiftly overtake the patrons is the Magic Carpet. Simultaneously with the opening of a door leading to the Magic Carpet, the seat collapses and the patrons find themselves sprawling at full length on a soft-cushioned carpet. They are jounced, bounced, and bumped, sometimes heels-over-head, as they helplessly slide down an undulated incline. The Magic Carpet crowds into five seconds the thrills of years of adventure. This fun house was invented and first operated by Hyla F. Maynes, in 1916.

A number of American fun-house inventions have been freely copied by European amusement operators under various names and installed at fairs and festivals in those countries.

Amusement conceptions known as illusion rides aim to make a person feel that he is traveling and sightseeing in strange or foreign places. To produce this effect, the patron is first seated in a chamber or room which simulates some familiar conveyance. Then the room is darkened, and projection machines produce the illusion of traveling while in reality the patron sits quietly and lets his imagination do the rest.

One of the pioneer producers of illusion rides was George C. Hale, of Kansas City, Missouri. In 1905, he built an imitation railway car mounted in a fixed position in such a manner that it could be slightly rocked and jarred, while the wheels rotated in imitation of cars moving over the rails. Through the open end of the car, the audience could observe the projected scenery passing before them, while scenic curtains rolled past the side windows. In this manner a remarkable illusion was produced. The device was known as Hale's Tours and was operated in a number of amusement centers. It was well staged. The front of the attraction represented a railroad depot. In the immediate background was the representation of a Pullman car, which the patrons entered. The program was changed weekly, thus a trip to Niagara Falls was followed by a trip to Europe, and so on. In this manner the much-coveted repeat business so eagerly hoped for by amusement concessionaires was obtained.

After Hale's success, many other illusion rides appeared, with submarines, ocean steamers, balloons and airplanes as the conveyances, and the kind of scenery that might be observed from each was projected in motion to complete the illusion.

The illusion ride known as the Haunted Swing, first produced by Alfred Pitzer, in 1909, was successfully operated at the Midwinter Fair in San Francisco, and subsequently in other places. It consisted of a room in which a large oscillating swing was suspended from a bar extending across the room from wall to wall, near the ceiling. The bar was bent crank fashion. After the patrons were seated in the swing, the door to the room was closed. Gradually the riders felt after three or four movements, that their swing was going rather high, the amplitude of the oscillations appearing to increase more and more, until presently the whole swing seemed to whirl completely over.

The illusion was based on the movement of the room. During the entire exhibition, the swing was practically stationary while the room rotated about the suspension bar. After the passengers had been seated, the swing was given a slight push by the attendants. The door was then closed and the operators outside the room began to swing the room itself, which was really a large box journaled on the swing bar. They swung it back and forth until it made a complete rotation, which they could do without special machinery by taking hold of the side of the room or box. After this had been kept up for several minutes, the movement was gradually brought to a stop.

All furniture and fixtures in the room were securely fastened in place, and the kerosene lamp was electrically lit. Even though one was informed of the secret before entering the swing, the deception was so complete that passengers involuntarily seized the arms of their seats, to avoid being precipitated below.

The illusion called the Trip to the Moon was invented by Frederick Thompson and first produced by Thompson and Dundy at the Buffalo Exposition, in 1901, and subsequently at Coney Island. This show was staged in a large building in the center of which a huge flying machine with large flapping wings was poised on a tower in such a manner that it could be rocked and swayed to imitate a flight in the air. The airship had a capacity of thirty passengers. The illusion was aided by projecting scenes and light effects on the inner wall of the building, including a thunder and lightning storm followed by a beautiful dawn. A lecturer pointed out various interesting scenes to the passengers, in the course of the illusory trip, to add to its verisimilitude.

After the "moon" had been reached, the motion of the airship stopped and a gangplank was lowered into the planet's interior which was located in an extension of the main building. The passengers disembarked and entered the "moon" where they found strange grottos and weird passages that offered many thrills. In one chamber, with walls of cheese, a number of active little Brownies capered around, pointing out to the visitors that it was a common belief that the moon was made of cheese, and offered a piece of it to prove the point. From there, the visitors passed over the swaying bridges to the exit.

A different type of illusion show was the Cyclorama, the origin of which has been traced to the use of scenery by the Italians, three hundred years ago. The Cyclorama was staged in a large circular building, the inner wall of which was covered by a huge canvas on which scenes were depicted. The spectators occupied an elevated platform in the center of the building, reached by an underpass. The painted scenes on the canvas were skillfully blended into a foreground of natural objects, such as soil, small tufts of grass, trees, and parts of buildings and fences. It was impossible for the spectators to discern the line of demarcation between painted and natural objects. Once upon the platform, the spectators lost all sense of orientation and could neither tell the points of the compass, nor even conceive of the size of the building. In order to achieve a perfect illusion, a building and a canvas of large dimensions were required.

The cyclorama of the Battle of Gettysburg which was shown in New York and other places in the nineties contained a canvas four hundred feet long and fifty feet wide. On this enormous expanse the great battle scene was painted, and a most realistic foreground of real cannon and other war equipment, as well as local points of the field, were blended in. The great painting was executed by M. Phillippoteaux, a French artist.

The most successful type of illusion was the mechanical spectacular show. This was usually based on some major catastrophe or historical event, and was presented in a large building containing an auditorium and a stage. On the latter, the action scenes were depicted in miniature by means of painted scenery, lighting effects and projecting machines. Part of the scenery was so designed that it could be changed by mechanical means from a state of tranquillity and order to a state of utter destruction, as the play approached the climax. Among the illusions of this type that were shown were the Johnstown Flood, the North Pole, the Galveston Flood, the battle of the *Merrimac* and the *Monitor*.

CHAPTER 17

Menageries

Wild animals in captivity have been exhibited before a curious public for many centuries. The Chinese are said to have originated menageries more than one thousand years before the Christian era. A wild animal that could be exhibited in a cage was much appreciated by showmen. At the Smithfield Fair, in 1702, the public was regaled with the sight of "a tygar warranted to pluck feathers from fowl; he eats iron and stone and hath two spears grown by his side," which proved to be just an ostrich in a cage. At the same fair "two Rattlesnakes, one of very large size and rattles that you may hear him a quarter of a mile almost" were also on exhibition. In such a manner wild animals from exotic lands, unknown by sight to Europeans, were exhibited for many years.

The first large menagerie to contain wild animals of many different kinds was the Wombwell and Bostock Wild Animal Show. This organization began to tour the English provinces in 1805 and continued in operation for more than a century.

In this show the cages which contained the wild animals were fixed on large decorated lorries, thus making it easy to move the entire caravan from town to town and from fair to fair, as well as to set up quickly an exhibition arena. The Wombwell and Bostock outfit consisted of fifteen animal vans. When they arrived on the exhibition ground, they were formed into two lines, with the long elephant van at one end and the "Pay Here" van at the other, the whole being roofed over with canvas. The keepers slept in the vans behind the animal cages. All the animals were carried in cages except the two elephants. These intelligent beasts walked, but were cleverly shielded from view so that their huge carcasses would not be publicly exposed for nothing. They, too, were caged within a van but it had no floor, thus they traveled marching along in the caravan with only their huge feet exposed.

When not performing, they were persistent beggars, thrusting out their long trunks to the spectators for halfpennies which they immediately deposited at a cake-and-nut stall within easy reach, receiving eatables in return. When not served immediately, they would ring a bell to attract the attention of the Negro who kept the stall.

In 1805, William Miller, of London, wrote as follows:

> An immense sum is annually expended in this country in the indulgence of low amusements at statues, fairs, etc. Indeed, as many carts, wagons, chaises, caravans and horses are employed in transporting, from one fair to another, strolling players, harlequins, pantaloons, punches, scaramouches, tumblers, salt-box musicians, wild beasts, giants, dwarfs, monsters, learned horses, learned pigs, fire-eaters, stone-eaters, fortune-tellers, conjurors, and fools, as would be sufficient to convey a considerable part of the camp-equipment of His Majesty's land forces.

The use of horse-drawn vans to transport show equipment was met with considerable opposition by some people not interested in public amusement, and English showmen eventually changed over to steam tractors to draw their loaded lorries from place to place, over the public highway. Still later, they adopted the now familiar motor transport.

In the year 1848, a sailor who had been voyaging in the North Sea brought back a few specimens of aquatic life he had caught there. They were just ordinary seals, but in those days strange foreign beasts were not as well known as they are now. A man named Carl Hagenbeck, in Hamburg, Germany, bought the seals and showed them publicly. His business prospered; he bought more animals; and later he became known as the most important wild-beast merchant in the world. In time, his two sons joined him in the business, and they decided to do something that had never been done before. They acquired a large tract of land near Hamburg and laid it out in accordance with a plan which gave every animal "exhibit" just the kind of home that was best suited to it. Huge ponds were made for strange water birds and wild fowl, and rocks and crags one hundred and fifty feet high were built for the climbing wild animals. Lions, tigers, and other ferocious beasts roamed in open spaces, their freedom unimpeded by bars, cages or fences, but they were prevented from escaping by moats filled with water—natural barriers—which they could not cross.

The Hagenbecks opened their famous Stellingen Zoo to the public in 1907, and it has been a stellar attraction for tourists ever since. Zoo officials of many countries have visited and studied Hagenbeck's novel arrangement, and it has served as a model for other zoos, though on a smaller scale, in the public parks of many countries.

During World War II, the Stellingen animal park was heavily bombed and many of the wild animals were killed. In 1948, the park was restored and the Hagenbeck firm celebrated its one hundredth anniversary, the German Postal Department issuing a special cachet in honor of the event.

On a number of occasions, the Hagenbecks consigned large collections of animals to distant places as side shows at exhibitions and world's fairs. Over one thousand wild animals were sent to the Chicago World's Fair, in 1903.

CHAPTER 18

Dance Halls

American amusement parks usually include among their attractions a dance hall or dance platform, where pleasure-seekers can enjoy this popular pastime. Ritual dances and war dances go back to the tribal era of man. Modern dances began to develop in the twelfth century at the various European courts. The early dances resembled a polonaise and were accompanied by a song. Each gentleman took a lady, or possibly two, by the hand, and they stepped and glided around the room, singing to the accompaniment of a stringed instrument played by a musician, who led the way.

There were, also, pantomime dances such as the *Ruedlieb,* described in the eleventh century. The young man imitated the movements of a falcon, the girl those of a pursued swallow, while both kept time with hands and feet to the tunes of a harp, according to *Modes and Manners,* a book on old customs, by Max von Boehn.

Public dance halls were known in Germany in the twelfth century, and professional buffoons known as Minnesingers appeared in them. These companies of lyric poets, singers, minstrels, jousters and clowns wandered from castle to castle, and town to town, earning their living by entertaining. They sang folk songs, recited poetry and told jokes, and they always danced, which brought them much applause. From these medieval troubadours, public dancing developed.

In the course of time, no great festival was complete without dancing of some kind. It was performed in many patterns: leaping, twirling, running and trouping. Sometimes the male celebrants indulged in highly unruly behavior, yelling at the top of their voices and swinging their partners so high that their skirts flew over their heads.

Along about the fifteenth century, dancing in couples (male and female) was widely introduced. But it was looked upon as so monstrous an innovation that the Church opposed it and the authorities of many towns prohibited it. Some magistrates issued regulations to govern dancing. Both men and women, they decreed, must be decently and properly dressed for dancing. No man was permitted to dance in breeches and doublet without a coat. Women and girls must not be twirled or twisted about. Couples who clasped each other and danced together caused considerable scandal, and punishment was continually threatened "for shameless twirling." Andreas Osleander wrote at Nurnberg, in 1550, that all couples who had danced together at his daughter's wedding had been fined. A Frenchman who witnessed dancing at that period in Strasbourg was convinced that the people were crazy and suffered from midsummer madness.

Finally, in some of the free states, the people built themselves private dance halls where they could take their pleasure undisturbed. Frankfurt am Main was the first town in which this method of evading official censure was adopted.

Montaigne, who attended a court ball at Strasbourg, in 1850, described the proceeding as follows: "The gentleman took the lady's hand, kissed it and placed his hand on her shoulder; he then clasped her securely, holding her close that they were cheek to cheek. The lady placed a hand on his shoulder and in this way they circled around the room."

CHAPTER 19

Festive Lights

For centuries outdoor showmen have endeavored to adorn their attractions with festal light after dark. In the early days the use of oil flares was common. With the development of European pleasure gardens, a profuse display of colored lamps became the accepted standard for nocturnal illumination. These lamps consisted of colored-glass globes about the size of a large orange, with a flaring opening at the top. The globes were partly filled with sperm oil, on the surface of which a small square of cork was floated. Through a hole in the cork a wick was placed, the lower part of which extended into the oil thus feeding the upper part which was lit. The lamps were secured in the desired place by a piece of wire. Large numbers were used in the famous English pleasure gardens, some of which boasted 20,000 lamps. These were distributed in the gardens, among shrubs, trees, walks, and buildings.

To take care of the huge number of lamps, a force of attendants was especially trained. A number of the gardens later changed over from oil to illuminating gas when the new lighting method became available but they retained the colored globes. In 1845, a Glasgow showman named Green profusely illuminated his large carrousel, including the rotating part, with illuminating gas. Naphtha torches were also widely used for a while, but the large open flame of these flares was regarded as a fire hazard. Then petroleum lamps were introduced for illuminating amusement devices. They were grouped in fancy chandeliers and were advertised as "storm proof." Many of the smaller amusement devices in European countries are still illuminated by petroleum lamps.

In the early eighties of the last century, the German showman Hugo Haase conceived a plan to illuminate his numerous amusement attractions in Hamburg by electricity. He hired ten railroad locomotives which he had set on a siding to furnish the steam power for the generators. The assembly was named Palace Enclosure. This brilliant illumination proved to be such an attraction to all classes of society that it broke down the barriers of class distinction at the fairground, and today the famous annual winter festival, Hamburg Dom, is still held there.

With the introduction of electric illumination, great changes took place at outdoor amusement resorts. English showmen were the first to use electric illumination in their devices, by operating portable steam-power generators. The arc lamp at first predominated. Later, the decorative effect of the incandescent lamp was fully exploited by modern American amusement parks, which also led in the adoption of present-day neon and fluorescent lighting systems.

CHAPTER 20

Fireworks

The display of fireworks for public entertainment is of Oriental origin. In Europe, such displays became a leading feature of the large pleasure gardens that flourished in the eighteenth century in France and England. A monster pyrotechnical show was a feaure of the Crystal Palace Exposition, in London, in 1851, and at the Philadelphia Centennial Exhibition, in 1876. At the opening celebration of the Brooklyn Bridge, in 1883, a magnificent pyrotechnical display covered the full length of the bridge. Another monster display of fireworks was an attraction at the Hudson-Fulton celebration in New York, in 1909.

Fireworks displays have become leading inducements to attendance at county fairs, amusement parks and pleasure resorts. Usually grouped in sets, the smaller pieces used to be imported from China. The larger or set pieces are manufactured in isolated locations for the purpose of safety. Forty years ago the largest fireworks firm in the world was located in the heart of Staten Island, New York. It covered an area of one square mile.

The standard pieces bear familiar names, such as Roman candles, rockets, bombs, torrents, floating festoons, colored lights, geysers, peacock plumes, shells and balloons. More elaborate displays are the Egyptian Pyramids, the Aurora Borealis, the Casket of Jewels, the Dazzling Diamonds, Niagara Falls, Italian Rosettes, the Tree of Liberty, the American Eagle, the Goddess of Liberty, and the Capitol at Washington. The latter piece is one of the most expensive ones and used to cost about $2,500 to produce.

A novel aerial display was given at the Panama-Pacific Exposition, in San Francisco, in 1915. It was the first to show steam pyrotechnics, in the production of which a battery of forty-eight searchlights threw colored beams on plumes of steam, on the smoke of bombs, and on fog and clouds.

Fireworks that dramatically present a picture were a feature of the early English pleasure gardens, where the pyrotechnician Torre, in 1718, produced his masterpiece, "The Forge of Vulcan," with great success. This type of performance was later introduced in this country by James Pain, of London, who staged the first large spectacular show in 1879, at Manhattan Beach, New York, and continued to produce them successfully for a quarter of a century afterward. A notable spectacle of this type is produced annually at the Canadian National Exhibition, in Toronto.

Pyrotechnical performances of this kind depend less on the story they present than on the gigantic display of fireworks which together with the elaborate stage setting dramatizes the subject in fiery outline. Usually the amphitheater, which may seat as many as ten thousand spectators, slopes down to the edge of an artificial lagoon. Beyond the lagoon is the stage proper, which contains sets of scenery. Because of the distance of the spectators from the stage, and the darkness, the refinements of acting would be wasted. The quality of entertainment provided depends therefore entirely on the spectacular. The performance is so arranged as to lead up to some stirring catastrophe, the climax generally being an awful cataclysm, a blood-curdling war scene or a conflagration.

Thus the most successful productions have represented such disasters as the Burning of Moscow, the Eruption of Mount Pelee, the Fall of Pompeii, and a long list of others of similar spectacular appeal.

The usual fireworks display must be produced after dark to be effective. To provide aerial entertainment in the daytime, the Japanese invented fantastic figures made of light paper and decorated in bright colors. Packed in shells and fired from mortars into the air, they explode and discharge fiery dragons, fish, princes and princesses, and strange animals peculiar to Japanese zoology, which float over the heads of the spectators. In another kind of display, figures are held in the air by strings, like a kite.

As far back as 1785, floating figures were launched at the great French amusement parks. They were made of taffeta and inflated with hydrogen. A modern version of these are the distorted forms of enormously exaggerated animals and mythical figures, made of light rubber and inflated with helium gas, which form an important part of the annual Macy's Thanksgiving Day parade in New York City. It is estimated that a crowd of two million people line the sidewalks to watch the parade of music and merriment, decorated floats, and giant inflated figures file through the streets. Some of the figures are sixty feet long and require 50,000 cubic feet of helium gas to float them in the air. A mobile gas tank follows the parade, ever ready to replenish the gas in the figures when required. Among the figures are Santa Claus, Jumbo, Crazy Cat, a whale, and a giant figure of a fireman. All are controlled by slender ropes held by men who walk in the parade. These giant floating figures were originated by the late Tony Sarg, of New York, and are made by the Goodyear Rubber Company.

CHAPTER 21

Miscellaneous Attractions

A great number of the attractions at present-day amusement parks and pleasure resorts consist of games of skill in which small prizes are won by the skill of the players. There is, however, a wide gap between games of skill and games of chance. The courts have many times been called upon to decide whether certain devices constituted skill or chance games. It is conceded that no American amusement park or resort which permits and fosters games of chance can escape public scorn.

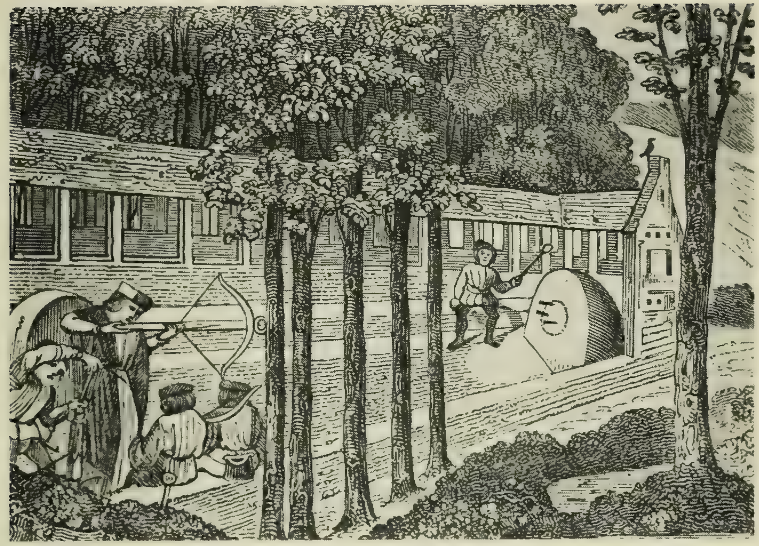
One of the oldest skill games is the shooting gallery. Its ancestry can be traced back through the centuries to the bow-and-arrow era. The ancient bow and arrow was primarily a weapon of war but in peacetime it was converted to the uses of archery, an art that was practiced by all classes, from royalty down. The targets which archers chose for practice, as described by the historian Joseph Strutt, were usually butts, prickets, targers, hazel wands, rose garlands, and popinjay, the latter a target in the form of a parrot on a pole. Archery ranges, where the archers shot at the butts, or dead marks, flourished in the fifteenth and sixteenth centuries, both for practice and pleasure shooting. The weapons used for pleasure were the bow and arrow and the crossbow. Arrows that made a loud whistling noise in their flight were contrived by boring holes in the arrowheads.

The interest in archery led to the establishment of shooting festivals at which contests were arranged between two opposing teams. The urban archery festival at Strasbourg, in 1576—later called the steel archery festival after steel bows were introduced—was very popular among all classes and large numbers of people participated. As many as two hundred and seventy-five marksmanship prizes were awarded and so great was the crush that the number of festival lots had to be increased. Entertainment, of course, was not confined to archery alone. Wheels of fortune offered many prizes, including a hostelry with a field of meadowland attached, to the winner of the *Lukepot,* but the number of lots was eighty-five thousand.

A grand shooting festival was held in London, in 1583. The different companies of archers, three hundred strong, in sumptuous apparel, marched from the Merchant Taylors Company hall. Every man had a longbow and four arrows. Nine hundred and forty of the marchers had chains of gold about their necks. With them were "hunters who wound their horn." This company was guarded by four thousand whifflers and billmen, besides pages and footmen. They passed through Broad Street, then on to Smithfield, where, having performed several evolutions, they shot with bow and arrows at targets for honor.

Another cavalcade of this kind was made by London archers in 1682, and King Charles II was present to greet the bowmen on their arrival. As to the rewards bestowed upon the best bowmen, the London fraternity are said to have shot for practice or honor, and sometimes for money or a prize.

With the introduction of firearms, the urge for practice increased, and shooting contests and festivals became fixed



Cross-Bow Shooting at a Target—Sixteenth Century

institutions in all countries. Beginning as local contests, they eventually became national, and finally international in scope.

A Grand National Shooting Festival was held in New York City, in 1868. The celebration took place in Jones's Wood and was attended by several hundred delegations from all parts of the country. The festival began on June 28 with a grand procession through the streets of New York, led by General Franz Sigel and scores of bands of music. It ended at the shooting grounds at Jones's Wood. A large festival hall had been erected at a cost of $40,000, and the great variety of prizes offered included every imaginable article from gold watches to an order for a suit of clothes. The prize money aggregated $30,000. One delegation even visited Washington some time in advance to invite President Johnson, who promised to attend.

One of the early large-scale shooting ranges in this country was Creedmore Range, in Queens County, Long Island. This was established by the National Rifle Association, which was organized in 1871 and was incorporated by the Legislature, in the primary interest of national defense. It received financial aid from both the city and the state.

Elaborate shooting contests were held annually at Creedmore. In 1877, an international rifle match took place, on September 13, in which English, French, German and Canadian teams took part, along with the American participants. The preliminary contests lasted for ten days.

The Creedmore Range was ideally situated for the contest. The great expanse of level ground was large enough for twenty separate ranges, each of which could be used at distances varying from a hundred to a thousand yards. In order to secure safety, a heavy embankment, twenty-five feet high, was constructed back of the targets. At a separate range visitors could enjoy firing with shotguns at glass balls thrown into the air.

In the center of the field stood a tall tripod surmounted by a weather vane which indicated the direction of the wind on a large clock dial. When the daily papers printed the scores of the various teams, the wind indications were added, as for instance, "the wind was from half past six to seven." This wind dial was closely watched by the marksmen who had to take the direction of the wind into consideration when aiming at the targets.

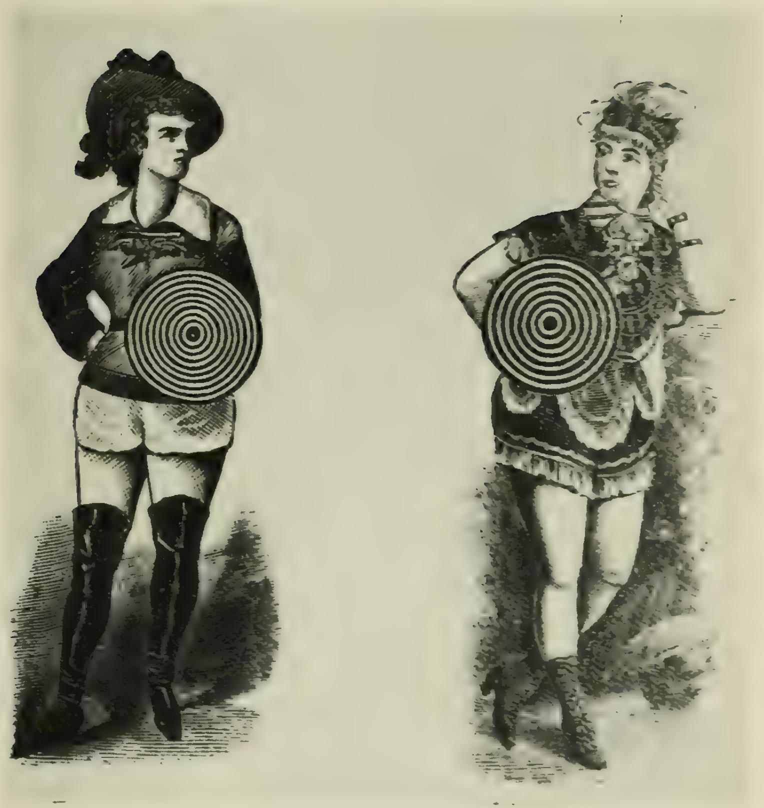
Apart from its pleasure, there can be no doubt of the practical advantages of rifle practice, to insure a proficiency in arms as a basic element of national strength.

Targets have changed down the centuries, along with the type of arms used. When the air gun was invented by Lobinger, of Nurnberg, in 1550, a great variety of mechanical targets came into use. Although still of the stationary type, when hit by a pellet some sort of mechanical action resulted to amuse the shooter. With the introduction of the small caliber magazine rifle, a new era for shooting galleries dawned, and these targets became obsolete.

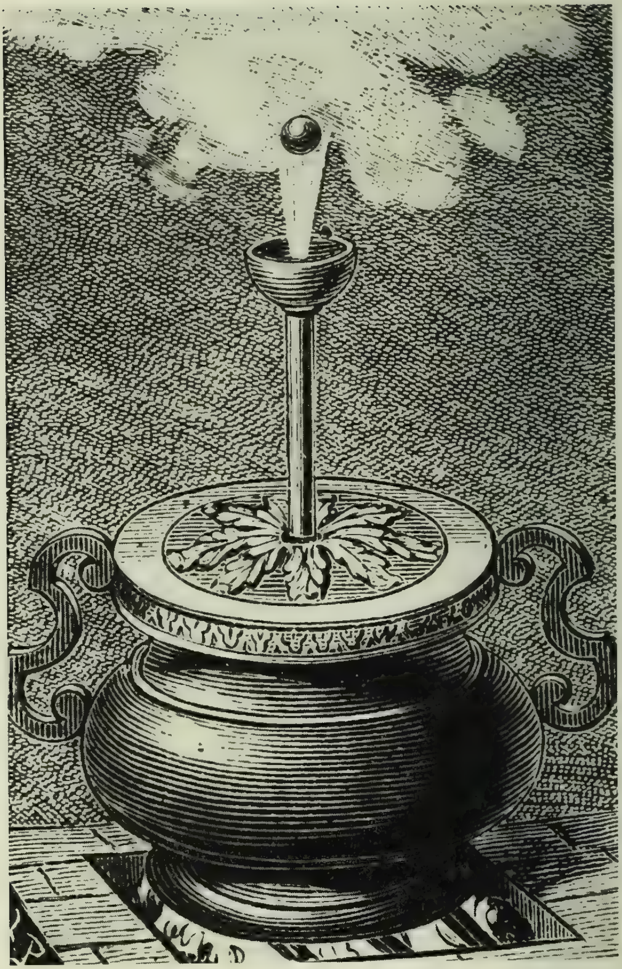
Early American shooting galleries were crude affairs, usually consisting of a few iron targets secured to a backstop. It also became a common practice to set up objects that could be demolished when hit, such as glass bottles or crockery. Clay pipes were popular targets for years. Later on, theatrical posters came in as target holders. These life-size posters of acrobats, clowns and ladies in tights were soon familiar figures in the galleries, but there were still no animated targets.

Early in the twentieth century, a change took place, and a number of mechanical targets suitable for rifle fire were installed. They were kept in motion by a motor, which made it possible to present an animated scene. Metal ducks swam and dived in imitation lakes; squirrels made of metal climbed trees and disappeared; and metal birds flew through the air. A full range of small animal targets passed through painted woods set on steel-plate stage settings. A tiny gas flame, burning at the end of a steel candle, could be snuffed out by a bullet, and then automatically relit. Animated targets of these types are still used. They are self-setting and require no attention, which is important, as the "kill" by magazine rifles in today's shooting galleries is enormous.

The so-called dancing glass ball is a permanent fixture in



Poster Targets—1890



Heron's Eolipile—150 B.C.

some galleries. On a slender jet of water, spouted vertically into the air, a light glass ball gyrates. The water strikes the ball on the side, causing it to rotate rapidly, and the resultant gyroscopic force prevents it from dropping. If the water should lose its grip on the ball, it drops into a conical net and is immediately forced to the top again. The constantly shifting position of the ball thus presents a tantalizing target. The gyrating ball was called the Eolipile by the Greek mathematician Heron and the theory of its action was described in his Pneumatics, which was written about 150 B.C.

In some shooting galleries motion pictures are used as animated targets. Various objects flit past on the screen to be shot at: wild animals running through the woods or birds flying through the air. Several kinds of motion picture targets have been invented. In one, the screen is an endless sheet of white paper, mounted on rollers like a roller towel. On this screen, the objects are projected. Behind the screen is a bright light, and when the paper is perforated by a bullet a sharp point of light appears through the perforation, but only for a moment. A sound-gear mechanism with sundry electric connections causes a short stoppage of the projected picture each time a rifle is fired, to enable the hit to be seen. Then the bullet hole is covered as the moving screen shuts off the point of light and the target again presents an unbroken surface.

This system was in operation for a while at several amusement centers, notably Atlantic City and Coney Island, but it was finally abandoned. A gallery of this type had to be operated in semi-darkness. This necessitated the hanging of dark cloth curtains in front of the gallery, behind which the shooters stood. This in itself was a serious handicap, but in addition it was found that when three or four shooters fired magazine rifles at the picture of a rabbit scampering across the screen, and each shot stopped the picture for a moment, the poor rabbit made little headway and the many sharp points of light on the screen were meaningless to the shooters. It further developed that the paper screen soon became so perforated that it required frequent renewal. These drawbacks, together with the high first cost of the equipment and the limited patronage, made this type of target unprofitable to operate.

In another type of motion picture target, it was proposed that a steel plate form the screen on which the pictures were projected. Behind the plate a number of small steel balls would be suspended in such a manner that the impact of a bullet on the front of the plate would jar a ball behind it and close an electric circuit connected with a registering device visible to the shooters. As far as is known, none of these galleries is in operation.

Modern shooting galleries are operated not only in amusement centers but also in the larger cities. They are also found in unusual places such as large ocean liners, military posts, private estates, country clubs and the basements of private homes. Practice ranges are maintained by police departments, banks, express companies, and many large industrial plants.

A variety of games operated at fairs and amusement centers invite patrons to throw baseballs at objects and win small prizes by their skill, or to test the accuracy of their aim by destroying some article for the fun of it. These objects range from a row of fluffy dolls set on a rack to the make-believe kitchen, with shelves of crockery and glass panes. To break the crockery and the panes seems to give great satisfaction to some throwers.

The African Dodger is a ball-throwing game which has amused thousands of people. It consists of a canvas stretched between two posts with a hole in the center. A Negro or a man in blackface thrusts his head through the opening and the public is invited to try to hit it with baseballs, three throws for ten cents. Needless to say, the "dodger" must have a keen eye to avoid the balls thrown at him, but despite his skill he is bound to receive some blows on the head. Up against accurate throwers, some dodgers have refused to continue. Faced with the problem of finding enough dodgers, operators of the game finally devised a wooden cap covered with curly hair which fitted over the dodger's skull. This covering absorbed the shock of a direct hit and permitted the dodger to defy the throwers.

After a while this game was looked upon by many as degrading to a race and in some localities it is prohibited by law. The substitution of a wooden head mounted on a stick and manipulated by a person in back of the curtain was a failure, not having the drawing power of a live head.

A cruel throwing game was popular in England during the sixteenth century. It was practiced as a diversion in many towns on Shrove Tuesday. A cock or rooster was put into a specially made earthen vessel leaving its head and tail exposed to view. The enclosed bird was then suspended over the street, about twelve feet from the ground, a target at which sticks and cudgels were thrown. The one who broke the pot and freed the bird from its confinement got it for reward. This game, in a modified form, is still a pastime on certain festival days in many small villages in European countries.

Cane-rack games were popular in former years. They consisted of a stack of new canes of every variety, some with large heads, others with small. They were stuck through a canvas stretched on a frame. The patrons stood some distance off and endeavored to throw small wooden rings over the head of a cane. The barker's invitation: "The cane you ring is the cane you win," is one of the best-known cries along the midway.

Another ring-tossing game is the knife board. For this a wide board is set at an angle, with a large number of pocketknives of every description stuck in it. The patrons try their skill in ringing a knife, and, as with the canes, the knife you ring you win.

Skill games of every imaginable character, some of a vicious nature, have been devised to satisfy every taste and together with small concession stands have been regarded as necessary adjuncts at fairs and festivals for centuries in all countries.

Concession stands or booths in which small novelties are produced in full view of the visitors became popular at world's fairs and expositions during the past century. The articles thus produced were sold as souvenirs. Despite the fact that an unusual degree of skill is required to originate and organize such concessions, there have been many imitators who operate at pleasure resorts.

In Machinery Hall, at the Centennial Exposition, in Philadelphia, there were a number of these booths. In one, a highly decorated band saw was installed, operated by an expert sawyer who was widely known as the Mohawk Dutchman. Taking a small block of wood, he would saw into it some intricate cuts. When the block was pressed with the fingers, it would fall apart and appear as a set of toy furniture. The pieces could be readily reassembled into a block again. This trick attracted a large crowd of visitors who, after watching the operation, bought the blocks as souvenirs. In addition to being an expert sawyer, the Mohawk Dutchman was also a good showman. He wore an ornate wooden crown and a uniform decorated with small wooden ornaments, which he had produced on his band saw. Another of his tricks that made the spectators gasp and swoon in horror was to make believe he had cut off one of his fingers on the swift-moving saw. After relishing the shocked expressions on the faces before him, he would hold up both hands and smilingly assure the spectators that all was well.

The ladies were much interested in the work of the glass engraver. He displayed various colored-glass trinkets, on which he would engrave the name of the purchaser, free of charge, in full view of the visitors.

A familiar booth at all fairs was that of the candy puller. After preparing a batch of candy in a large copper kettle and cooking it to its proper density, he would pull the entire batch over a large hook, secured to a post, to aerate it. Next he would throw the heavy batch around in fancy loops and curves, but he never missed the hook as the onlooking crowd hoped he might. Finally the candy was cut into strips and sold to the waiting customers. With the introduction of mechanical pullers, the old-fashioned candy puller was technologically replaced, and the spectators he once fascinated had to seek other interests.

Many readers are no doubt familiar with the silk weaver at world's fairs and expositions. Operating his noisy Jacquard loom in his booth, he wove silk shawls, pillow covers, handkerchiefs and similar articles embellished with designs depicting some feature of the fair, which he sold to spectators who watched the operation.

A novel concession at many fairs was the potter, who, in a booth that was a miniature pottery, sat at a bench in front of an ancient potter's wheel. After placing a small dot of clay on the revolving table, he would skillfully form it into a small cup or vase, using a simple tool or his bare fingers to help shape it, to the fascination of the onlookers. He would then place the article in a tiny gas furnace for the firing. After it had cooled a simple ornament was applied with a rubber stamp and the souvenir was ready for sale.

The concession that outnumbers all others in this country is the stand where roasted sausages are dispensed. Frankfurter sausages are said to have originated in the twelfth century, in the city of Frankfurt, Germany. They have been a popular delicacy in many lands ever since and have become a part of America's gastronomic life. They have been a common delicacy at fairs and festivals since time immemorial. An old woodcut of an ancient fair depicts hawkers roasting pretzel-shaped sausages on charcoal stoves, while a woman in a poke bonnet fans the fire.

In this country, frankfurters are a mixture of meat, usually beef and pork, with seasoning. They are made to weigh about eight or ten to the pound. After cooking and smoking to a light-brown color, they are ready for the venders, who roast them on a griddle heated by either gas, charcoal, or electricity. After roasting in this manner, the frankfurter is spread with mustard and served hot in a small bread roll.

Frankfurters are also referred to as franks, hots, dogs and other names. The modern method of serving roasted frankfurters tucked into a small bread roll is credited to Charles L. Feltman, of Coney Island, who is said to have instituted the custom in 1879. Others, however, have also laid claim to this honor.

A close second to frankfurters as a favorite snack at resorts are hamburgers, popularized since the First World War. A hamburger sandwich consists of a slab of ground meat heated on a griddle and served on a slice of bread.

At some fairs or picnics ox roasting is made a gala affair, with the entire carcass turned on a spit before a great fireplace. After the roasting, the meat is made into hot roast beef sandwiches.

In the early days, the turning of roasting spits before a fire was accomplished in several ingenious ways. Instead of turning them by hand, the larger inns and estates often used dog-power, the dog trotting around in a small treadmill fixed near the ceiling of the kitchen. Another widely used method employed a fan fixed in the chimney of the roasting furnace, the fan being turned by the ascending hot air. In some cases, clockwork operated by weights was the mechanism that rotated the spits. In modern rotisseries, small electric motors are used. It is claimed that no other method imparts such a fine flavor to meat as roasting before an open fire.

At all times in all countries, people seem to have enjoyed exhibitions in which diminutive mechanical figures were shown in motion. The Oriental countries developed the Javanese Wayang shadow plays and the ever-popular marionette. The marionette show spread in Europe through Greece and Italy. The boys and girls of ancient Greece saw wonderful puppet plays in the public squares. For centuries, mechanical panoramas displaying small mechanical figures in motion enjoyed popularity at fairs and festivals, and their producers became famous. This interest in mechanical moving figures is still alive today. A manufacturer in Kansas City has introduced a coin-operated machine which encloses a small puppet theater. The puppets are manipulated by a small motor and a concealed phonograph renders the dialogue and songs.

In 1748, Goodwin and Reynolds exhibited a panoramic view of the world. The movement of the figures were effected by clockwork. In 1789, Flocton exhibited his Inimitable Musical Clock, in which nine hundred mechanical miniature figures were shown at work. Joseph Strutt records that he observed a presentation with moving figures of the "Camp before Lisle," which was first exhibited in the reign of Queen Anne. This same writer also mentions the show of Pinketham, "The Motion Maker," who introduced on the stage the gods of Olympus ascending and descending the mount to the sound of music. The scenes and figures were painted on flat surfaces and motion was imparted by clockwork. Another noted presentation at that period was a "View of Algiers," showing scenes with the sea in motion and vessels entering and leaving the harbor. Still another presented a storm at sea, with ships in distress burning a blue light, firing guns, and finally becoming wrecked.

The popularity of mechanical figures extended even to itinerant street musicians whose hand organs were adorned with small mechanical theaters. When the music played, the little figures in the theater moved.

In some European cities tourists may be observed expectantly gazing at the balcony or the tower of the town hall, waiting for the clock to strike. When it does, groups of small mechanical figures go through a routine motion. Some of these figures have a religious aspect, and many stories are told about them, often, it is claimed, merely to impress the tourist. Some of the great cathedrals in Europe have organs or clocks which display figures. For a small fee, tourists and sightseers may watch the mechanical figures do their turn.

The astronomical clock of the Strasbourg cathedral is world famous. Many tourists on their way to the Black Forest and Switzerland stop over to view the great edifice, the tall spire of which dominates the town, and watch the great clock in action. Every day, a little before twelve, a queue forms before the door leading to the wonder clock. Promptly at noon, the clock presents a pageant, with carved figures of the Apostles moving in and out mysteriously as the chimes are sounded while the sacristan of the church makes his set speech in two languages. Construction of the clock began in 1541 and was completed in 1574. It consists of various chimes and moving figures that perform on the hour. A very complicated mechanism works the astronomical calendar.

In Herald Square, New York City, is the statue of Minerva, goddess of wisdom and patron of the arts, combined with a clock. At every hour, two large mechanical bronze figures take turns striking a bell with hammers, the number of strokes coinciding with the time registered above on the dial.

Another pair of mechanical bell ringers are the two wooden figures of Gog and Magog displayed in the Edison Institute Museum at Dearborn, Michigan. These figures are copies of the ones in the London Guildhall, carved, in 1708, by Richard Sanderson to replace those made in Caxton's time, which were destroyed in the great fire of 1666.

The first of such mechanical figures to become famous, according to the historian Karl Friedrich Floegel, was a mechanical rooster installed in the tower of Munster Cathedral, in 1352, which flapped its wings and crowed as the clock struck.

Thus the "motion maker" has gone through many centuries with an always appreciative public, culminating in present-day motion pictures, television, and the mammoth animated signs of Times Square.

Appendix

AMERICAN OUTDOOR AMUSEMENT ASSOCIATIONS

(Information regarding these Associations may be obtained by addressing *The Billboard,* Cincinnati, Ohio.)

NATIONAL ASSOCIATION OF AMUSEMENT PARKS, POOLS AND BEACHES, Chicago, Ill.
NATIONAL SHOWMEN'S ASSOCIATION, New York, N. Y.
SHOWMEN'S LEAGUE OF AMERICA, Chicago, Ill.
AMERICAN CARNIVAL ASSOCIATION, Rochester, N. Y.
MICHIGAN SHOWMEN'S ASSOCIATION, Detroit, Mich.
HEART OF AMERICA SHOWMEN'S CLUB, Kansas City, Mo.
INTERNATIONAL ASSOCIATION OF FAIRS AND EXPOSITIONS, Brockton, Mass.
NEW ENGLAND ASSOCIATION OF AMUSEMENT PARKS AND BEACHES, Exeter, N. H.
PACIFIC COAST SHOWMEN'S ASSOCIATION, Los Angeles, Cal.
PENNSYLVANIA AMUSEMENT PARKS ASSOCIATION, Pittsburgh, Pa.
AMERICAN RECREATIONAL EQUIPMENT ASSOCIATION, New York, N. Y.
SHOWFOLKS OF AMERICA, San Francisco, Cal.
REGULAR ASSOCIATED TROUPERS, Los Angeles, Cal.
HOT SPRINGS SHOWMEN'S ASSOCIATION, Hot Springs, Ark.
GREATER TAMPA SHOWMEN'S ASSOCIATION, Tampa, Fla.

OUTDOOR AMUSEMENT PUBLICATIONS

The Billboard, Cincinnati, Ohio
Greater Show World, New York, N. Y.
The World's Fair, Oldham, England
Der Anker, Hamburg, Germany
L'Industriel Forain, Paris, France
De Komeet, Amsterdam, Netherlands

AMUSEMENT TRADE ASSOCIATIONS IN FOREIGN COUNTRIES

(Prior to World War II *)

GREAT BRITAIN

Showman Guild of Great Britain, London
Amusement Caterers' Association, London
The National Market Traders Federation, Sheffield

GERMANY

Fachschaft Schausteller, Berlin
Wirtschafts Gruppe Ambulante Gewerbe, Berlin

AUSTRIA

Zwangsgilde der Marktfahrer, Vienna

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* How many of these foreign organizations survived World War II has not been established.

FRANCE

Union Commerciale des Marches de France, Paris
Syndicat General des Forains de Fetes et Foires, Paris
Federation Forain de France, Paris
Forain Girondin, Bordeaux
Union Syndicale Patronale des Industriels Forains, Paris
Syndicat "La Paix," Metz
Syndicat des Forains Nantais et Regionaux, Nantes
Union des Entrepreneurs des Bals Forains, Eroy-le-Catel

BELGIUM

Union Professionelle Belge pour la Defense du Commerce Ambulante, Liege

NETHERLANDS

Nederlandsche Bond van Marktkooplieden-Vereenigingen, 's-Gravenhage
Nederlandsche Vereeniging van Kermisvakgenooten, Utrecht
R. K. Vereeniging van Kermisvakgenooten, Hengels

CZECHO-SLOVAKIA

Odborovy svaz Trhovcu a podomnich ochodniku, V.C.S.R., Prague
Trhove's svaz cal Trhovcu, Prague

SWITZERLAND

Union Suisse des Marchands Forains, Berne
Schweizerischer Klein-Handler Verband, Basle
Schweizerischer Klein-Handler Verband, Zurich

DENMARK

Danmarks Teltholderforening, Jutland

SWEDEN

Svenska Tivoliagare Forening, Stockholm

LUXEMBOURG

Union des Forains (Attractions), Esch-sur-Alzette
Association Luxemburgeoise des Commercants de Foires et Marches, Weimerskirch

TURKEY

Director of National and International Exhibitions and Fairs, Ministry of National Economy, Ankara

JAPAN

Nippon Bankoku Hakuran-Kwai, Tokyo

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